Office Supreme Court, U.S.
FILED
JUN 23 1957
JOHN T. FEY, Clerk

IN THE

Supreme Court of the United States

OCTOBER TERM 1956

No. ~~1115~~ 215

COLGATE-PALMOLIVE COMPANY,

Petitioner,

v.

CARTER PRODUCTS, INC., JOSEPH G. SPITZER, and MARVIN SMALL,

Respondents.

PETITION FOR A WRIT OF CERTIORARI.

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June 21, 1957.

Patrick Press, Inc., 32 Thames St., New York 6, N. Y., U. S. A.

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PETITION FOR A WRIT OF CERTIORARI.

Petitioner Colgate-Palmolive Company prays that a writ of certiorari issue to review the decision and order of the Court of Appeals for the Fourth Circuit of April 1, 1957 as it modifies, amends or construes the former decision of that Court herein dated March 8, 1956, and to review the decision of March 8, 1956 as so modified, amended or construed.

The original judgment of the Court of Appeals, with respect to which this Court denied certiorari,[1] affirmed the interlocutory decree of the District Court for the District of Maryland holding valid all of the twenty-one claims of the Spitzer patent covering the pressure packaging of soap solutions.

In its first decision the Court of Appeals appraised against the prior art only the specific pressurized shaving

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[1] 352 U. S. 843. Justice Douglas recorded his opinion that certiorari should be granted. Rehearing was denied, 352 U. S. 913.

cream which was the preferred embodiment of the patentees' combinations and not the full range of combinations covered by the claims.

The first decision left the possibility that the broad claims were to be construed narrowly to conform with the Court's seemingly narrow concept of the invention.

The Court's decision of April 1, 1957 announces, however, that the original determination of the Court was not intended to "limit the scope of the invention or the claims of the patent in any way" (App. C, p. 1c).

This conclusion was reached although the Spitzer claims cover the combination of any common soap solution with the most common commercial propellant gases in every practicable proportion in any pressure container for any shaving or washing purpose whatsoever.

Opinions Below.

The opinion of the District Court is reported in 130 F. Supp. 557, and is Appendix D hereto. The opinion of the Court of Appeals affirming the District Court is reported in 230 F. 2d 855, and is Appendix B hereto. The opinion of the Court of Appeals modifying, construing or amending its original determination is reported at 243 F. 2d 163 and is Appendix C hereto.

Jurisdiction.

The judgment of the Court of Appeals is dated March 8, 1956. The decision modifying, amending or construing this judgment is dated April 1, 1957.

Jurisdiction of this Court is invoked under 28 U. S. C. §1254. As to reviewing the prior interlocutory judgment of the Court of Appeals on review of the order of April 1, see *Hamilton Brown Shoe Co.* v. *Wolf Bros. & Co.*, 240

U. S. 251, 257-58 (1916). As to direct review of the prior interlocutory judgment as modified, amended or construed, cf. *Federal Power Commission* v. *Idaho Power Co.*, 344 U. S. 17 (1952); *Federal Trade Commission* v. *Minneapolis-Honeywell Regulator Co.*, 344 U. S. 206 (1952), involving final judgments.

Questions Presented.

Because of the Court of Appeals' second decision, this case presents, in addition to patent validity, questions of basic importance to the patent law:

1. May a court uphold claims embracing a range of numerous alternative combinations upon a determination of the patentability of only the preferred combination of the patentees?

2. May a court uphold claims broad enough to cover products which the patentee concedes are impractical but which he surmises some later discovery or improvement may render practical?

Statement.

The Background of the Spitzer Patent.

The Spitzer patent describes a package for squirting soap solution out of a can as a lather. All elements of the package—soap solution, propellant gas and container—were old (Tr. 141, 259, 266-270). The notion of combining them was the adaptation to soap of a packaging technique long used for other products (Tr. 134).

The patent falls into the class of combination patents whose claims, Mr. Justice Jackson has stated, should be scrutinized with "a care proportioned to the difficulty and improbability of finding invention in an assembly of old

elements". *Great Atlantic & Pacific Tea Co.* v. *Supermarket Equipment Corp.*, 340 U. S. 147, 152 (1950).

The Spitzer patent presents a broader threat to the public interest than that with which Justice Jackson was concerned. It covers not one but thousands of combinations of soap solutions with propellants in pressure containers.

Pressure packaging is a marketing device which has become very popular with modern consumers. So-called "aerosol" cans of various products line the shelves of every drug store today. Several industries have built up around pressure packaging, and its news is reported in a magazine "Aerosol Age, The Magazine of Pressure Packaging."

Pressure packaging was first used commercially to dispense cream as a foam or "whipped" cream. In World War II pressure packaging was widely used by the Armed Forces for insecticides. After the war, pressure packaging was used for commercial insecticides and a host of products ranging from foaming suntan lotion to Christmas tree snow.

It occurred to patentee Spitzer that pressure packaging might provide a marketing advantage in the sale of shaving cream.

Spitzer's idea as such was unpatentable. To implement it Spitzer consulted a commercial laboratory, Snell, which recognized the connection between what Spitzer wanted and pressurized "whipped" cream (Tr. 134).[2]

In thirteen working days Snell prepared a pressurized shaving cream by mixing common barber shop liquid shaving soap with Freon 12 in a container used for pressure-

[2] References to the transcript of record will be made as Tr. .....; references to plaintiffs' exhibits as PX .....; and references to defendant Colgate's exhibits as DCX .....

packaged "whipped" cream (PX 5, 155). Freon 12 is the trade name for a propellant gas marketed by du Pont and widely used for pressure packaging.

Snell then addressed itself to selecting what it regarded as the best soaps and propellants for use in a commercial product.

Among the propellants tried was a combination of Freon 12 with Freon 11, another du Pont product. This was abandoned. Due to the presence of Freon 11 the lather "started to burn and sting, and gave the sensation of heating and stinging of the face, and the longer it stayed on the face the worse it made it" (Tr. 167).

The milder propellant combination selected for commercial use was a mixture of Freon 12 and Freon 114 suggested by du Pont (Tr. 1079). The soap was TEA (triethanolamine)-stearate-cocoate long used for shampoos and recommended for shaving. The combination was marketed under the trade name "Rise".

In due course Snell applied for the patent in suit. The claims ranged from the broad to the particular.

The first twenty claims cover in broad scope pressure packages containing solutions of any soap mixed with the most common Freon propellants. In fact the claims go so far as to include combinations utilizing Freon 11, the propellant found commercially unsuitable because of the stinging sensation produced on the skin.

With respect to Freon 11 and similar propellants, one of the patentees had reported to his patent attorney:

> "Freons 11, 21, and 22 and Genetron 101 and 102-J are considered undesirable since they cause marked skin smarting. Some of them also yield poor lathers. A very broad claim covering them as well as the other Freons may be desirable, since they are not entirely unusable and since someone, some day may

discover how to overcome smarting, as by using some suitable analgesic in the composition" (PX 37, p. 25).

Accordingly all but three of the claims of the patent were framed broadly enough to embrace soap solutions pressurized with combinations including Freon 11 and other "undesirable" propellants.

Claim 21 of the patent is the only one describing a combination of a particular soap solution with particular propellants. These are the specific ingredients of the plaintiffs' product "Rise."

The soap industry is not concerned because the courts below have held that "Rise" is patentable. No one has been accused of infringing Claim 21. The main concern is that the remainder of the claims as finally construed by the Court of Appeals preempt a monopoly of the pressure packaging of soap solutions generally with the common Freon propellants, and entitle the patentees to royalties on products which the work of other researchers is required to render practical.

The Decision of the District Court.

Plaintiffs instituted this action for infringement in the United States District Court for the District of Maryland on the day the patent issued. That court upheld all twenty-one claims of the patent (130 F. Supp. 557). Its decision was affirmed, on different reasoning, by the Court of Appeals for the Fourth Circuit (230 F. 2d 855).

The First Decision of the Court of Appeals.

A fair reading of the first decision of the Court of Appeals strongly suggests that the Court addressed itself solely to the question of whether it required patentable invention to arrive at the commercial product "Rise".

Having concluded that "Rise" was patentable, the Court seems to have proceeded to validate all claims irrespective of what other products those claims also covered. There is no indication in the opinion that the Court had in mind that the claims of the patent monopolized not merely "Rise" but nearly any liquid soap solution with Freon propellants in all practicable proportions for any washing purpose whatsoever, whether suitable for shaving or not.[3]

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[3] The language of Claim 1 demonstrates the breadth of the patent:

> "A package comprising a pressure tight container having a valve-controlled opening and containing a composition for use in producing a stable lather consisting essentially of a liquid mixture of an aqueous soap solution and a volatile propellant in liquid phase, the composition being confined in the container under the vapor pressure of the propellant,
>
> said soap solution comprising a solution which is non-gelling at room temperatures and which contains at least about 5% and not substantially exceeding about 30% by weight of soap,
>
> said propellant being a halogenated alkane having not more than two carbon atoms and containing at least one fluorine atom, the atomic weight of each substituted halogen atom not exceeding 36, the proportion of propellant being from about 0.2 to about 0.0125 mole per 100 grams of the composition, said propellant having a vapor pressure in the range from about 5 to about 300 pounds per square inch gauge at 70°F. and having a solubility in water not exceeding about 32cc. of gas to 100 grams of water at atmospheric pressure and 25° C."

Stripped of its technical jargon, this claim asserts a monopoly over a combination of the following elements:

Pressurized container: Any aerosol can with a valve will do.

Soap solution: Any soap and most synthetic detergents can be used. Water is added to make a solution of any desired strength within wide limits. The claim makes the rather obvious reservation that the solution should not be of such strength as to "gell" or solidify within the can.

Propellants: The claim lays down requirements as to atomic structure, vapor pressure, and solubility in water.

The belief that the Court considered only the specific pressurized shaving cream of the patentees, rather than the multitude of compositions included in the claims, is confirmed by the Court's discussion of the history of the invention.

The Court treats certain combinations as unsuccessful steps leading to the invention, although these same combinations are monopolized by the twenty broad Spitzer claims.

1. The Court says that the barber shop soap-Freon 12 combination "would not do because the pressure was too high" (App. B, p. 3b). What was meant was that the vapor pressure of the propellant was too great to permit use of the thin-walled containers then commercially available. The barber shop soap-Freon 12 combination is, however, covered by most of the claims.[4]

2. The Court refers to combinations using Freon 11 to reduce the pressure of other propellants as producing "a smarting, skin-irritating product not suitable for shaving"

These requirements are, however, so drawn that they have been construed to cover a mixture of Freon 12 and Freon 114, and they equally well cover a mixture of Freon 12 and Freon 11. Other propellants covered by various claims of the patent are listed at the top of column 6 of the patent. They are known by their trade names of Freon 22, Freon 113, Genetron 100 and Genetron 101.

A concise explanation of the claims, indicating in more detail the actual breadth of the language used, is included as Appendix A to our earlier petition for certiorari, No. 150, 1956 Term.

[4] Freon 12 is included within the scope of Claim 1. The barber shop soap solution falls within the broad coverage of the claim as to soap solutions.

(App. B, p. 3b). Such combinations, however, are covered by most of the claims.[5]

3. The Court states that the use of mineral oil to reduce vapor pressure "produced problems in connection with the soaps" (App. B, p. 3b). But the claims cover the use of mineral oil with any soap solution.[6]

4. The Court treats the fact that "sodium soaps were eliminated" as a step to the achievement of the invention. It is true that sodium soaps were not included in the patentees' commercial product. In the patent, however, the use of sodium soaps is permitted by most and indeed required by some of the claims.[7]

The first decision also strongly suggests that its finding of patentability concerned only the preferred pressurized shaving cream of the patent.

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[5] Propellant combinations in which Freon 11 is used to reduce the vapor pressure of other Freon propellants satisfy the requirements of Claim 1 as to chemical structure, solubility and vapor pressure and are covered by this and other claims of the patent.

The properties of several propellants are given in PX 44. Freon 11 has one carbon atom, one fluorine atom and three substituted halogen atoms with atomic weight of 36. Its solubility in water is 19.3 cc. per 100 grams of water. Its vapor pressure is negative. It must thus be used in combination with another propellant, as it was in the experimental composition rejected for commercial use. See p. 5 above. Such use in combination is expressly provided for in the patent. Column 6, ll. 60-65.

[6] Claim 15 specifically covers the use of mineral oil with a solution of any of the common soaps. Furthermore, the use of mineral oil would be permitted by the broad language of Claim 1 and other claims of the patent. The composition within the can need be only "essentially" soap solution and propellant.

[7] Sodium soaps are specifically required by Claims 5 and 20. They are specifically made optional by Claims 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, and 13. They are also embraced by the language of claims which are broad enough to include any soap whatever.

1. The Court said:

> "What was novel was to get a mixture of the right gases, with the right soaps in the right proportions, confined in a container under the right pressure so that a lather satisfactory for shaving purposes would be produced when the mixture was allowed to emerge." (App. B, p. 3b).

This statement ignores the broad scope of the claims and the fact that many of the combinations covered are useful not for pressurized shaving creams, but only for shampoos or general washing.

2. At four points in its decision the Court referred to lengthy experimentation and research as indicative of invention (App. B, pp. 2b, 3b, 10b, 12b). For example, the Court stated:

> "A sufficient answer to the argument that nothing more is involved than the skill of the art is that the patentees experimented for months in the effort to produce the pressurized shaving cream of the patent before their efforts finally resulted in success * * *" (App. B, p. 10b).

This can only have reference to the patentees' preferred combination. The Freon 12-barber shop soap combination which is covered by and forms the basis for most of the claims was produced in only thirteen working days (PX 5).

3. The Court treats as direct evidence of invention what it characterizes as Colgate's "unsuccessful" efforts to produce "the pressurized shaving cream of the patent" (App. B, p. 10b). Actually plaintiffs concede that these "unsuccessful" formulas are embraced within the claims.[8]

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[8] In the District Court, in opposition to our contention that these so-called "failures" must be excluded from the claims, plaintiffs asserted:

> "Colgate's attempt to rely on its experimental formulas, * * * ignores the adjudicated fact that these experimental

The Court's discussion of the issue of anticipation further suggests that all that it compared with the prior art was plaintiffs' preferred combination.

1. Prior art patents which plainly disclosed combinations of shaving soap with Freons within the proportion of the broad Spitzer claims were dismissed because "neither of these teaches how to produce the pressurized shaving cream of the patent in suit" (App. B, p. 8b).[9] Again the Court seemed to miss the point that the claims are not only not confined to a particular pressurized shaving cream but are not even limited to pressurized shaving creams generally.

2. The Court stated as to prior art pressurized shaving cream formulas of Lieutenant Segelken produced in the laboratory of a subsidiary of Standard Oil:

> "* * * it is not shown that he used the combination either of propellants or soaps prescribed by the patent or that he eliminated objectionable matters eliminated by that combination or achieved the results obtained by it." (App. B, p. 9b).

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formulas were derived from RISE on the market. This is hardly proof of non-infringement but the opposite, and all of those formulas fall clearly within claims 2 and 16, which Judge Parker stated were 'typical'." Affidavit in Opposition to Motion of Defendant Colgate-Palmolive Company For Modification of Decree, Paragraph 14.

[9] The Argentine and Panama patents translated as DCX 59 give formulas for two pressurized "Soap Base Shaving Creams". The essential ingredients are the same as given in the Spitzer claims: soap, water, and propellant. The patents suggest as especially desirable a propellant combination of Freon 11, Freon 12 and Genetron 101; covered by the Spitzer claims. It would therefore be expected, as is the fact, that at least some preparations subsumed in the formulas are embraced within the Spitzer claims.

The Court so stated, although plaintiffs' counsel had conceded at the trial that Segelken's formulas were covered by at least some of the Spitzer claims.[10]

The Second Decision of the Court of Appeals.

The first determination of the Court of Appeals left the defendants and the industry in complete uncertainty as to the scope of plaintiffs' monopoly.

The Court had made no measurement of the claims for purposes of infringement. Colgate had stipulated at the start of the trial that its products were covered by certain of the broad claims of Spitzer (Tr. 18). Even as to the non-stipulating defendants, the Court assumed that there was no issue of infringement (App. B, p. 1b).

The Colgate stipulation had been premised on the claims being construed in accordance with their literal terms. If the Court of Appeals intended that the claims should be construed to conform with its narrow concept of invention, the stipulation had become inapplicable and highly prejudicial to Colgate. Colgate's products differed from the preferred composition of the patent and were only reached because they were included within claims covering a range of combinations.[11] Accordingly, Colgate moved in the

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[10] Tr. 1604. "Mr. Finnegan [Plaintiffs' counsel]: * * * some of the claims in suit would not be anticipated by the Segelken formula. The Court: But you admit some would be? Mr. Finnegan: Yes, some would be."

A formal patent memorandum from Segelken to his employer is set forth as DCX 67. At least some of the formulas set forth in DCX 67 would fall squarely within Claim 1 and other claims of the patent.

[11] Claim 21, the only claim of the patent specifying a particular pressurized shaving cream, requires a TEA stearate-cocoate soap pressurized with a combination of Freon 12 and Freon 114. This is the plaintiffs' commercial formula. Each of the three Colgate products differed from that described by Claim 21 not only as to

District Court to set aside the stipulation and to try the issue of infringement on the merits.

The District Court required Colgate to seek leave to proceed with its motion from the Court of Appeals. That Court denied permission. Construing its initial decision, it stated:

> "* * * there is no basis for the contention that this court intended to limit or did limit the scope of the invention or the claims of the patent in any way." (App. C, p. 1c)

It further stated:

> "It is argued that in giving the history of the invention, the court described it in a more limited way than the claims; but this was not intended to limit and did not limit the claims which were set forth and discussed in another portion of the opinion * * *." (App. C, p. 2c)

Thus the Court of Appeals removed the ambiguity from its first decision and provided an extraordinary and sweeping confirmation of the broad scope of the patentees' claims.

The Questions for Review Here.

This petition for certiorari does not require this Court to review the concurrent findings of the Courts below that plaintiffs' pressurized shaving cream "Rise" involves patentable invention. There is no substantial public interest involved in a review of this holding. No one has even been accused of infringing the one claim specifically defining that formulation.

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proportions but as to ingredients as well. Rapid-Shave No. 1 contained a TEA-potassium-sodium stearate-cocoate soap. Rapid-Shave No. 2 contained a TEA stearate soap without cocoate. Colgate Barber Shave also contained a TEA stearate soap without cocoate. In addition it was pressurized by Freon 12 without Freon 114.

The other twenty claims of the patent are cast in much broader terms. They cover a multitude of combinations. It has been determined below that each of these broader claims should be construed as having its full literal scope, and is not to be limited by implication to the specific "Rise" formulation.

This leaves for resolution by this Court whether the broad claims could properly be upheld in the full scope accorded them by the Court of Appeals, on the basis of the factors it considered relevant.

Reasons for Allowance of the Writ.

The Basis for this Petition for Certiorari.

There is a substantial difference between the grounds of this petition and those of the petition for certiorari after the first decision of the Court of Appeals.

At the time of our first petition, it was possible that the errors urged resulted from a misreading of the claims and not from a misapplication of basic principles of patent law.

For this reason we asserted:

> "Petitioners' basic complaint is that the legal issues raised on the trial record have not yet been reviewed.
>
> "(A) *The trial court* sustained patentability by finding novelty in the selection of 'a relatively small group of Freons' as propellants to be used generally with any soap solution—although the propellants selected were those most commonly used in the prior art (see pages 13 to 14 below).
>
> *The Court of Appeals* did not decide whether this was invention under the standards set forth by this Court. Instead it rewrote the

trial court's finding. It found the invention to be a specific combination of particular soaps with particular propellants. This revised finding is in square conflict with the patent specifications which disclaim this definition of the invention (see pages 14 to 22 below).

"(B) *The trial court* prohibited the introduction of evidence to show what was known as to propellants in the prior art—although it found the selection of propellants to be the heart of the 'invention' (see pages 23 to 24 below).

The Court of Appeals by redefining the invention was able to assert that such evidence as to propellants was not within the issues (see pages 24 to 25 below).

"(C) *The trial court* refused to admit evidence as to the disclosures of foreign patents showing pressurized shaving cream on the legal ground that these patents did not meet the statutory qualifications of the prior art (see pages 25 to 27 below).

The Court of Appeals neither reviewed the legal issues as to whether these patents qualified as prior art, nor remanded the case to permit evidence to be introduced as to their meaning. Instead, the Court of Appeals itself, without evidence, appraised the disclosures of these patents and held that they did not set forth the invention of Spitzer (see pages 27 to 31 below).

(Petition for Certiorari, No. 150, 1956 Term, pp. 3-4)

Although the initial decision resulted in gross prejudice to the defendants, it was possible that its impact on the public would be limited.

When an issue arose as to the scope of the claims, the Court could have conformed their scope to its apparently narrow finding as to invention.

This is no longer a possibility. The Court of Appeals, as the final interpreter of its own decision, has stated that it intended no limitation of the claims.

It is now plain that although the Court of Appeals considered only the novelty and patentability of the preferred combination of the patent, the claims of the patent are to be given their broad literal scope.

It is also plain that combinations included in the patent because "someone, some day, may discover" how to overcome their deficiencies, are embraced within the patentees' monopoly.

Thus, the danger to the thirty-million dollar business in pressurized shaving cream, the threat to manufacturers of other pressurized soap products and to all engaged in pressure packaging is no longer potential—it is direct and immediate.

The Erroneous Principles of Law Involved in the Court's Decision.

In *United Carbon Co.* v. *Binney & Smith Co.*, 317 U. S. 228, 232 (1942), this Court said as to issues of novelty, invention and infringement:

> "The scope and sufficiency of the claims in suit necessarily present themselves as preliminary problems in the resolution of these ultimate issues."

The present case now holds that as to broad combination claims issues of novelty and invention may be formulated in terms of the preferred combination without reference to the scope of the claims.

As to broad combination claims, the approach of the Court of Appeals involves a double standard.

Validity has been sustained on a narrow basis while the claims have been given a different and broader coverage.

One improper effect of such a double standard is to award the patentees a monopoly over parts of the prior art. In this case the pressurized shaving creams of Segelken and of the Argentine and Panama patents were eliminated as anticipations because they lacked the particularity to guide one to the preferred composition of the Spitzer patent.

Nonetheless these very same pressurized shaving creams fall within the literal scope of the Spitzer claims and are swept into the Spitzer monopoly. Segelken, for example, is now forbidden from using the very preparations which he compounded long before Spitzer.[12]

The Failure to Measure the Invention Against the Claims.

The Court below referred to the well-settled principle that the claims measure the scope of the patent.

It is also well settled that claims "fail equally to perform their function as a measure of the grant when they overclaim the invention", *Graver Tank & Mfg. Co.* v. *Linde Air Products Co.*, 336 U. S. 271, 277 (1949).

To avoid overclaiming, the nature of the invention must be carefully analyzed and nothing more than this invention can be comprehended within the claims.

As pointed out by Mr. Justice Frankfurter in his concurring opinion in *Funk Bros. Seed Co.* v. *Kalo Inoculant Co.*, 333 U. S. 127, 134 (1948), a failure to define invention and monopoly in the same terms results in logical inconsistency.

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[12] See note 10 *supra*.

In the *Funk Bros.* case a majority of the Court held the claims invalid because they monopolized a law of nature. In concurring, Justice Frankfurter showed that the same result could be reached by applying basic rules of logic to the problem of claim appraisal.

He pointed out that a distinction should be made between the idea behind the invention and the combination by which it was reduced to practice. The idea was not patentable while the specific combination was. A patent upheld on the basis of a specific combination should not through broad claims monopolize the underlying idea.

The problem which Justice Frankfurter noted in the *Funk Bros.* case is squarely presented here.

As in the *Funk Bros.* case there are two phases to the claim of originality of the patentees:

> (1) The idea that soap and water could be pressurized with a propellant to produce a shaving cream; and
>
> (2) The experimental demonstration that this could be done.

Here, as in the *Funk Bros.* case, the Court of Appeals seems to have assessed the patentability of only a particular composition.

Nonetheless, as in the *Funk Bros.* case, when an occasion arose for construing the scope of the claims, the claims were given a far broader interpretation.

The main difference between this and the *Funk Bros.* case is that, superficially, the Spitzer claims avoid patenting the idea. The claims specify the combination in terms of soaps, propellants, proportions and the like.

When the claims are examined, however, it is plain that it is the idea which has been patented and that the provi-

sions as to the elements of the combination are so broad as to be illusory.

Thus, for example, the claims embrace the use of any known soap and state in the specifications that the soap to be used is "not critical".

The proportions specified cover such a broad range as to permit the use of soap and water and propellant in any proportion which might be thought feasible. The specifications again assert that the amount of soap and water, and the amount of soap solution and propellant, are "not critical".

The claims limit the propellants to certain halogenated hydrocarbons of particular solubility. These, however, are the Freons generally available for pressure packaging. The claims cover propellants with vapor pressures of from 5 to 300 pounds. Thus the claims cover propellant combinations ranging from those which would barely push the soap solution from the can to those which would explode most commercial containers (Tr. 240-241).

Thus, having contributed a specific pressurized shaving cream, the patentees have monopolized the idea of pressure packaging soap and water with the common commercial Freon propellants.

The Failure to Strike Claims Embracing Combinations Concededly Impractical Without Improvement by Others.

The patentees and the courts below have thus far treated the patent in suit as a patent on pressurized shaving cream. Even in this limited field, however, the patent in suit claims more than it contributes to the public store of knowledge.

The testimony of one of the patentees makes clear that in his search for a commercially marketable pressurized shaving cream he rejected a combination made with Freon

12 and Freon 11 because of smarting. "Freon 11 caused this smarting, and we could not use that propellant" (Tr. 167).

Nevertheless the patent explicitly provides for the use of propellant combinations containing Freon 11 (App. E; Col. 6). The patentee's report to patent counsel suggested a claim broad enough to include Freon 11 because "someone, some day may discover how to overcome smarting" (PX 37, p. 25).[13]

Now the Court of Appeals has upheld the full scope of the patent claims although specifically advised that the claims included combinations which had been rejected by that Court as unsuccessful attempts to achieve the invention.

The patentees are thus in a position to demand royalties from later inventors who solve the problem the patentees abandoned.

This Court has recently expressed its condemnation of claims so broad as to discourage later inventors. In *Halliburton Oil Well Cementing Co.* v. *Walker*, 329 U. S. 1 (1946), Mr. Justice Black stated:

> "In this age of technological development there may be many other devices beyond our present information or indeed our imagination which will perform that function and yet fit these claims. And unless frightened from the course of experimentation by broad functional claims like these, inventive genius may evolve many more devices to accomplish the same purpose. See United Carbon Co. *v.* Binney & Smith Co., 317 U. S. 228, 236, Burr *v.* Duryee, 1 Wall. 531, 568; O'Reilly *v.* Morse, 15 How. 62, 112-13. Yet if Walker's blanket claims be valid, no device to clarify echo waves, now known or hereafter invented, whether the device be an actual equivalent of

[13] See page 5, *supra*.

Walker's ingredient or not, could be used in a combination such as this, during the life of Walker's patent." 329 U. S. at 12.

In the *Halliburton* case the patentee imposed on future inventors by using functional language to define his invention, indicating what it should do instead of how it was made.

In the present case the patentees have done the same thing more subtly. They avoid the pitfall of failing to indicate how their combinations are made. But the patent delineates what these combinations should do in such broad terms as to cover up the patentees' failure to overcome the problem of smarting.

In the future royalties may be exacted on the very same combination rejected by the patentees when someone else succeeds in making it suitable for shaving.

Orderly administration of the patent law requires that this Court determine whether the *Halliburton* doctrine is to give any protection against overreaching of future inventors by the device used here.

Impact of the Second Decision.

The second decision of the Court of Appeals has a most direct and important impact upon three substantial industries.

Obviously affected are the manufacturers of toilet articles and cosmetics who market pressurized shaving cream. Despite the ambiguity of the first decision, plaintiffs immediately announced that they had thereby achieved patent coverage of "all pressurized shaving lather products on the market today".[14] This involves some thirty million dollars worth of goods sold annually.

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[14] Statement of Philip Richardson, Vice President of Carter Products, Inc., reported in Drug Trade News, March 26, 1956.

Also affected are manufacturers of other soap products, who are now to a great extent foreclosed from unlicensed development of new pressure-packaged products, and commercial fillers, who are confronted with possible liability for patent infringement whenever a new product is pressure-packed in a can.

Plaintiffs' Oppressive Licensing Program.

The decision, moreover, has provided the plaintiffs with tremendous leverage to force acceptance of their licensing program.

They are offering as their standard license an agreement in the form annexed hereto as Appendix A.

This license expressly requires the licensee to pay royalties on the Spitzer patent until 1970, the full term of the patent, even if, in the meantime, this or any other Court should hold the patent invalid.

The license also compels the licensee to pay patent royalties on pressurized shaving cream, irrespective of whether the product so produced is actually covered by the Spitzer claims.

It also requires the licensee to take a license and concede validity of any future improvement patents so long as the licensee's products are covered by their claims.

Unlikelihood of Further Litigation.

The second decision of the Court of Appeals has the additional effect of throttling further litigation as to the scope and validity of the Spitzer patent.

Unlike most civil judgments, an adjudication of patent validity has in addition to its importance as a precedent, a direct legal effect upon the rights of unrepresented third parties.

A person continuing to market a product covered by an adjudicated claim is faced with an enhanced danger that treble damages may be recovered.

Furthermore, it is a principle of the patent law that once validity is adjudicated, a patentee is entitled to a preliminary injunction against third party infringers.[15]

Because of the danger of a preliminary injunction, a manufacturer finds that as a condition precedent to refusing a license and contesting validity of the Spitzer claims, he may have to cease manufacturing his products.

In view of the substantial increase in the bargaining power of the plaintiffs, it has become unlikely that a conflict of decisions between the circuits will develop with respect to the Spitzer patent.

Plaintiffs' right to a preliminary injunction will discourage others from initiating further litigation. Any litigation that the plaintiffs might begin could be instituted in the Fourth Circuit, where validity is established, since the products of any significant manufacturer will be marketed through dealers subject to suit in the Fourth Circuit.

Only one other action involving the Spitzer patent had been begun before the decisions of the Court of Appeals in this case. That is the *Mennen* declaratory judgment action in the Second Circuit. That litigation has so slowed to a standstill that the parties have been obliged to respond to

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[15] *Leeds & Catlin v. Victor Talking Machine Co.*, 213 U. S. 301, 312 (1909). Walker on Patents, §774, states as follows: "It is an incontrovertible rule of equity jurisprudence that where there has been a prior adjudication sustaining a patent and an infringement thereof in the same or another circuit, where the validity of the patent has been contested on full proofs, the District Court should, upon a motion for a preliminary injunction, sustain the patent, grant an injunction and leave the question of its validity to be determined upon the final hearing."

a calendar call as to why the litigation should not be dismissed for lack of prosecution.

Quite evidently, the plaintiffs have the option as to whether further proceedings take place in the *Mennen* case and can always dispose of it by a favorable offer of settlement. The situation suggests that such disposition has been deferred because the pendency of the *Mennen* suit serves a strategic purpose.

If at some future time the patentees' strategy should change, and the *Mennen* action should be pressed to a conclusion, any resulting conflict between the circuits might never be brought to this Court's attention. A conflict would be occasioned by a decision against the patent owners, who might find it inadvisable to seek this Court's review.

Upon the most minimal of contributions, the Court of Appeals has granted the patentees a potent weapon to achieve monopolistic control of the pressure packaging of soap—a weapon which the patentees are proceeding to exploit so as to put their monopoly beyond the corrective power of this or any other Court.

This Case is Ripe for Review.

Since jurisdiction of issues of patent validity and infringement is restricted to the federal courts, this Court has the primary role in delineating the basic principles of patent law to be applied to the adjudication of patent questions.

In recent years this Court has indicated by its denials of certiorari that it is reluctant to review patent cases which merely involve the application of established rules as to novelty, invention and infringement to the facts of particular cases.[16]

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[16] During the 1956 Term this Court has denied certiorari in some fifteen cases involving the validity of a patent.

Furthermore the virtually automatic grant of certiorari where there is a conflict between the circuits as to the validity of a particular patent has failed in the past several years to bring patent cases to this Court for review.[17]

Nonetheless this Court has several times in years past undertaken to review patent cases where there is no conflict between the circuits if the issues as to validity pose basic questions of patent law.[18]

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[17] The most recent case involving the validity of a patent and coming to this Court after a conflict between circuits is *Jungersen v. Ostby & Barton Co.*, 335 U. S. 560 (1949).

[18] Recent cases involving the validity of a patent which this Court has reviewed without indicating the existence of any conflict among circuits include:

Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp., 340 U. S. 147 (1950); *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 336 U. S. 271 (1949), *on rehearing*, 339 U. S. 605 (1950); *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U. S. 127 (1948); *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U. S. 327 (1945); *Goodyear Tire & Rubber Co. v. Ray-O-Vac Co.*, 321 U. S. 275 (1944); *Muncie Gear Works v. Outboard, Marine & Mfg. Co.*, 315 U. S. 759 (1942); *Williams Mfg. Co. v. United Shoe Mach. Corp.*, 316 U. S. 364 (1942); *United Carbon Co. v. Binney & Smith Co.*, 317 U. S. 228 (1942).

It is also noteworthy that where the decision below has been in favor of the patentee, this Court has normally reviewed the case at an interlocutory stage, thus recognizing the importance to the public interest of a prompt final determination as to validity. Cases in which review has thus been had in advance of final judgment include:

Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp., 340 U. S. 147 (1950); *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 336 U. S. 271 (1949), *on rehearing*, 339 U. S. 605 (1950); *Mandel Bros. v. Wallace*, 335 U. S. 291 (1948); *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U. S. 127 (1948); *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U. S. 327 (1945); *Goodyear Tire & Rubber Co. v. Ray-O-Vac Co.*, 321 U. S. 275 (1944); *United Carbon Co. v. Binney & Smith Co.*, 317 U. S. 228 (1942); *Williams Mfg. Co. v. United Shoe Mach. Corp.*, 316 U. S. 364 (1942); *Muncie Gear Works v. Outboard, Marine & Mfg. Co.*, 315 U. S. 759 (1942); *U. S. Industrial Chemicals v. Carbide & Carbon Chemicals Corp.*, 315 U. S. 668 (1942); *Cuno Engineering Corp. v. Automatic Devices Corp.*, 314 U. S. 84 (1941).

Both from the standpoint of the posture of this case and the nature of the issues presented, the case is particularly appropriate for the exercise of the certiorari jurisdiction of this Court.

It is unlikely that a conflict of circuits as to validity will develop in the foreseeable future. As pointed out above the only other action involving the Spitzer patent has slowed to a standstill.

The case involves issues of basic importance to the administration of the patent law. The question of the standards to be applied in appraising the validity of broad combination claims has not been before this Court in several decades.

The dual-standard rule of the Court of Appeals defeats the fundamental principle of patent law that the monopoly granted to the patentee should not exceed his contribution to the public.

The question of the permissibility of preemption of the fruits of other inventors' labor is vital to every patent draftsman.

Accordingly, the case presents an opportunity to pass upon significant patent issues which have long awaited this Court's review.

Respectfully submitted.

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Of Counsel:

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CARLSON, PITZNER, HUBBARD & WOLFE,
Chicago, Illinois.

VENABLE, BAETJER AND HOWARD,
Baltimore, Maryland.

June 21, 1957.

APPENDIX A.

Patent License Agreement.

THIS AGREEMENT executed in quadruplicate this
day of , 1956 but effective as of October 13, 1953, by and between CARTER PRODUCTS, INC., a corporation organized and existing under the laws of the State of Maryland and having a place of business at Two Park Avenue in the City of New York, State of New York, hereinafter called "LICENSOR", and
a corporation organized and existing under the laws of the State of and having a place of business at
hereinafter called "LICENSEE".

WITNESSETH:

WHEREAS, LICENSOR is entitled to grant sub-licenses under United States Patent No. 2,655,480, Spitzer et al., October 13, 1953, and hereby so warrants: and

WHEREAS, LICENSEE desires to obtain a sub license under said patent upon the terms, and conditions hereinafter, in this Agreement, set forth:

NOW, THEREFORE, for and in consideration of the sub-license herein granted and of the mutual covenants herein contained, the parties hereto have agreed as follows:

I

DEFINITIONS

As used in this Agreement the following quoted words and phrases shall have the meanings described to them in this paragraph.

"LICENSED PRODUCT"—a package containing a pressure-propelled self-generating lather composition particularly designed for and limited to shaving lather.

"THE PATENTS"—United States Patent No. 2,655,480, any reissues thereof or improvements thereon.

"NET SALES"—The actual gross amount of the invoices covering all LICENSEE's sales of Licensed Product after deduction of customary trade discounts, returns, and free replacements.

II

LICENSE GRANT

LICENSOR hereby grants to LICENSEE, upon the terms, limitations and conditions herein stated, a non-exclusive, non-transferable sub-license to manufacture said Licensed Product, or to have same manufactured for it, and to sell said Licensed Product only under the trade mark, trade name, brand name or label of LICENSEE, in the United States of America, its territories or possessions, under U. S. Patent No. 2,655,480, any reissues thereof, and improvements thereon or modifications thereof owned or controlled by LICENSOR. The license herein granted does not include the right to manufacture Licensed Product directly or indirectly for others. This license does not include the right to use the trade-mark "Rise" or any other trade-mark of LICENSOR.

III

ROYALTY

In consideration for the license granted to it by this Agreement, LICENSEE will pay to LICENSOR a royalty upon all sales of the Licensed Product as herein defined sold by LICENSEE since October 12, 1953, and which hereafter shall be sold by LICENSEE to and including the expiration date of said U. S. Patent No. 2,655,480 (October 13, 1970), and thereafter if and so long as the Licensed Product sold by LICENSEE is covered by one or more claims of an unexpired U. S. patent on an improvement or modification of the Licensed Product, which patent is licensed under the terms of this Agreement, the said royalty to be calculated as follows:

A. Six (6%) Per Cent of the LICENSEE's net sales of Licensed Product sold on and after October 13, 1953, and up to and including the date of this Agreement.

B. Five (5%) Per Cent of the LICENSEE's net sales of Licensed Product sold after the date of this Agreement and so long as royalties shall accrue under the terms of this Article III.

IV

ROYALTY PAYMENT AND ACCOUNTING

Within sixty (60) days after the execution of this License Agreement, LICENSEE shall render to LICENSOR an accounting in writing as to the amount of LICENSEE's net sales of Licensed Product during the period beginning October 13, 1953 and ending with the date of this Agreement, and shall pay to LICENSOR with such report the total amount of royalty due for said period.

LICENSEE, thereafter, shall render an accounting in writing as to the amount of LICENSEE's net sales of Licensed Product for each calendar quarter (said calendar quarters ending on the last days of March, June, September and December) within thirty (30) days after the end of such quarter and make payment of royalties due for such quarter with such report.

LICENSEE agrees to keep complete and accurate records of licensed sales which records shall be open during reasonable business hours to a certified public accountant selected by LICENSOR who shall, at LICENSOR's expense, have access to said records for the purpose of verifying for LICENSOR, the amount payable as herein provided. Said accountant shall treat as confidential and shall not disclose to LICENSOR any information other than information relating solely to the accuracy of the reports and payments made under this Agreement.

Patent License Agreement.

V

MISCELLANEOUS

LICENSEE will mark the Licensed Product with patent notices in the manner provided by 35 United States Code §287.

It is mutually agreed that this license is granted under and subject to the provisions of an Agreement between LICENSOR and J. George Spitzer and Marvin Small dated February 8, 1950 and the amendments to said Agreement.

LICENSEE acknowledges the validity of the patents licensed hereunder and agrees during the existence of this Agreement not to infringe or to contest the validity thereof nor at any time willingly to aid others in the infringing or contesting the validity thereof.

LICENSEE may not repudiate, cancel or terminate this Agreement other than as provided under the terms hereof.

No challenge to the validity of, nor holding of, invalidity with respect to U. S. Patent No. 2,655,480, or any claim or claims thereof, shall relieve the LICENSEE of the obligation to pay to the LICENSOR the royalties provided in this Agreement on the LICENSEE's sales of the Licensed Product.

VI

TERM AND TERMINATION

The term of the sub-license granted herein will extend for the life of the last to expire of the licensed patents hereunder unless earlier terminated in accordance with the provisions hereof.

If any improvement or modification patent under which LICENSEE is licensed hereunder is finally held invalid, the LICENSEE may at its option terminate this Agreement with respect to the patent so held invalid only, upon written notice to the LICENSOR given not later than thirty (30) days

after such final holding of invalidity; but the LICENSEE shall not be relieved from paying to LICENSOR royalties due or accruing on sales made prior to the date of such notice of termination, nor shall the LICENSEE be relieved in any case from the payment of royalty prior to the expiration date of U. S. Patent No. 2,655,480 (October 13, 1970), or under any other improvement or modification patent or patents. Such termination shall not in any way limit or impair the enforcement by LICENSOR against LICENSEE of any patent rights of LICENSOR.

This license may be cancelled by LICENSOR in the event of breach thereof by LICENSEE provided such breach has not been remedied within sixty (60) days after notice of such breach, or in the event LICENSEE files a petition in bankruptcy or is adjudged a bankrupt, or LICENSEE takes advantage of any insolvency act, or LICENSEE executes a bill of sale, deed of trust or assignment for the benefit of creditors; such cancellation to be without prejudice to the right of LICENSOR to recover any monies due LICENSOR hereunder, or any other rights or remedies of LICENSOR.

VII

NOTICES

Any notice required or permitted to be given under this Agreement by either of the parties hereto shall be deemed to have been sufficiently given, for all the purposes hereof, if mailed by registered mail, postage prepaid, addressed to the party to be notified at its address shown at the beginning of this Agreement, or at such other address as may be furnished in writing to the notifying party.

VIII

This Agreement constitutes the entire understanding between the parties hereto. No modification, extension or waiver of any provision hereof or release of any right

hereunder shall be valid unless in writing and consented to by LICENSOR, LICENSEE and said J. George Spitzer and Marvin Small.

IX

Neither this Agreement nor the licenses herein granted shall be assignable by LICENSEE. The Agreement shall accrue to the benefit of and be binding upon the LICENSOR, its successors and assigns.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed by their duly authorized officers the day and year first above written.

CARTER PRODUCTS, INC.

By.....

President

Attest:

.....

Secretary

(SEAL)

.....

By.....

Attest:

.....

Secretary

(SEAL)

Patent License Agreement.

The undersigned, Licensors of U. S. Patent No. 2,655,480 to Carter Products, Inc., hereby approve and consent to the foregoing License Agreement.

Dated:

.....

.....

J. George Spitzer

Witness:

.....

.....

Marvin Small

Witness:

.....

APPENDIX B.

First Opinion of the United States Court of Appeals for the Fourth Circuit.

PARKER, Chief Judge:

This is an appeal in a case involving patent infringement and appropriation of trade secrets. The patent in suit is United States Patent No. 2,655,480 issued October 13, 1953 to one Spitzer and others relating to a pressurized shaving cream. The plaintiffs in the court below, appellees here, were Spitzer and his partner Small, holders by assignment from the other patentees, and Carter Products Inc., manufacturer of drugs and cosmetics and the holder of an exclusive license under the patent. The defendants below, appellants here, were the Colgate-Palmolive Company, the manufacturer of a pressurized shaving cream alleged to infringe, the Stalfort Pressure-Pak Corporation and John C. Stalfort & Sons, Inc., who packaged pressurized shaving cream alleged to infringe the patent for the Mennen Company, and the Read Drug & Chemical Company, Inc., which sold the pressurized shaving cream for Colgate and Mennen. Plaintiffs claimed infringement of only eight claims of the patent. Defendants admitted infgingement if these claims were valid but denied their validity and asked judgment declaring them as well as all other claims of the patent invalid.

The trial court held the patent valid, and enjoined infringement thereof as well as the use of a trade secret held to have been wrongfully appropriated by Colgate. It also ordered Colgate to assign to plaintiffs rights under patent applications found to have been based upon the trade secret. The case was referred to a special master to determine and report as to damages resulting from infringement and also as to damages and profits for which Colgate should be required to account because of misappropriation of trade secrets and to make recommendations as to whether the damages on account of patent infringement should be

increased as allowed by statute, reserving, however, for future determination the question as to whether increased damages should be awarded. Judgment was entered that plaintiffs recover their costs and taxable disbursements to date, including against Colgate reasonable attorneys' fees, and the special master was directed to include in his report a recommendation as to the amount of attorneys' fees to be allowed. Three principal questions are presented by the appeal: (1) Is the patent valid? (2) Should the findings of the trial court as to misappropriation of trade secrets be sustained? And (3) Is the decree proper?

1. *The Validity of the Patent.*

Spitzer, one of the patentees, in the year 1948 conceived the idea of developing a shaving lather which, like the lather produced by machines in barber shops, could be used as it came from the container without being worked up on the face. He employed Foster D. Snell, Inc., consulting chemists, to work out his idea for him in terms of a mixture that could be enclosed in a small container and, upon the opening of a valve, would emerge in the form of a durable lather, which, without whipping up or other agitation, could be used for shaving purposes. Snell put to work on the project two chemists, Reich and Fine, who after several months of work and experimentation developed an emulsion consisting of an aqueous soap solution mixed with certain gases liquefied by pressure, which they enclosed in a container. When the valve of the container was opened the pressure of the gases extruded the emulsion and, as it came from the can, the particles of gas expanded into minute bubbles covered with soap which was the shaving lather desired. Patent, applied for November 2, 1949, was issued to Spitzer, Reich and Fine October 13, 1953. In the meantime an exclusive license had been granted to Carter and the product was being marketed under the trade name of "Rise". It achieved at once outstanding commercial success. Sales of "Rise" in 1950 amounted to $400,000, in

1951 to $800,000, in 1952 to $1,800,000 and in 1953 to $2,600,000. The sales of Colgate's infringing product in 1954 amounted to $5,000,000.

There was, of course, nothing novel in the use of soap to make lather, nor in the use of a can as a container, nor in the use of a gas liquefied by pressure and mixed with another liquid to spray the mixture from the can. What was novel was to get a mixture of the right gases, with the right soaps in the right proportions, confined in a container under the right pressure, so that a lather satisfactory for shaving purposes would be produced when the mixture was allowed to emerge. In producing such a mixture many problems were encountered and the record shows that their solution took many months. The first experiment consisted in mixing a liquid soap then on the market with nitrous oxide gas, the gas used with pressurized whipped cream. This was a failure because the gas was soluble in the aqueous soap solution and the product extruded from the container was not a lather useful for shaving but a mere soapy liquid. An emulsion consisting of the gas propellant Freon-12 (dichlordifluormethane) and the soap solution used in barber shop machines would not do because the pressure was too high. Reduction of the vapor pressure by mixing Freon-11 (monofluortrichlormethane) with Freon-12 produced a smarting, skin-irritating product not suitable for shaving. Reduction of vapor pressure with mineral oil solved the pressure problem but produced problems in connection with the soaps. Finally, after much experimentation, sodium soaps were eliminated and the soap solution adopted was a combination of 80 parts of TEA (triethanolamine) stearate and 20 parts of TEA cocoate, to prevent jelling. The proper propellant was found after much inquiry and experiment by mixing Freon-114 (1, 2 dichlor 1, 1, 2, 2 tetrafluorethane) with Freon-12. The trial judge summarized the matter as follows:

> "Precisely what is this new combination? The individual ingredients of the shaving soap solutions

embraced in the Spitzer patent were old in the art. So were the Freons. Also, Freons had previously been used successfully as propellants in aerosols and insecticides. In other words, the *combination* of some Freons with the Spitzer soap solutions was not new in the art. But the combination of an aqueous soap solution, emulsified in the liquid base with a Freon which had not only low water solubility but which combined the properties of (1) not smarting or burning the face, and (2) good, stable lather, was unknown. There were a number of Freons used in the propellant art which did not smart or burn the face, but they did not afford a good stable lather. Conversely, there were those Freons that were known to give a satisfactory lather but they were disagreeable on the skin. It is this combination of a relatively small group of Freons, that manifest those desirable properties of low water solubility and the optimum characteristics of non-smarting and of lather quality, with aqueous soap solutions that constitutes the invention of Spitzer and his associates. They discovered that all three of these characteristics were inter-related. They found that Freons having a solubility in water not exceeding about 32 cc. of gas to 100 grams of water to be the type of Freons productive of the optimum of the other two qualities desired in the lather composition. This is what the specifications of the Spitzer patent teach, and all 8 of the claims in suit are responsive to this teaching. Claims 6 and 9 are limited to the use of Freon-114. Claims 8 and 10 are limited to the use of Freon-12. Claims 18 and 20, which are based upon claim 16 as a parent claim, prescribe the use of any one of a group of five Freons, including 12 and 114. Claims 8 (based on claim 2) and 15 embrace the use of a broader group of Freons, but in this group also are *only* Freons that are essentially non-smarting to the face, and stable in lather forming. In fact, the entire 21 claims of the patent are so limited."

Opinion of Parker, C. J., Court of Appeals.

The invention is thus described in the specification:

"In general, the above and other objects of the invention are carried out by employing a composition comprising a water solution of a suitable soap or like detergent and a highly volatile organic liquid, hereinafter generally termed a propellant. At least a substantial proportion of the propellant used in the mixture is insoluble in the soap solution, and the two primary ingredients are mixed and maintained under sufficient pressure so that the insoluble portion of the propellant is in liquid phase, existing as droplets or in the form of a liquid-liquid emulsion in the soap solution. The mixed primary ingredients are confined at the vapor pressure of the propellant in a pressure-tight container having an opening controlled by a suitable manually operable valve. When the valve is opened, the pressure on the composition is released as it emerges from the container, with the result that a fine textured creamy lather is produced. The action is apparently such that the volatile, propellant liquid, entrapped as an emulsion within the liquid soap solution vaporizes upon the release of pressure therefrom, forming fine gass cells throughout the liquid soap solution and thus forming it into a lather."

Of the claims in suit, claims 2, 6, 10, 16 and 20, may be taken as typical. They are as follows:

"2. A package comprising a pressure-tight container having a valve-controlled opening and containing a composition for use in producing a stable lather consisting essentially of a liquid mixture of an aqueous soap solution and a volatile propellant in liquid phase, the composition being confined in the container under the vapor pressure of the propellant, said soap solution comprising a solution which is non-gelling at room temperatures and which contains at least about 5% and

not substantially exceeding about 30% by weight of soap, a substantial proportion of the soap in said soap solution comprising at least one soap selected from the group consisting of the soaps of potassium, sodium and the water soluble aliphatic amines, said propellant being a halogenated alkane having not more than two carbon atoms and containing at least one fluorine atom, the atomic weight of each substituted halogen atom not exceeding 36, the proportion of propellant being from about 0.2 to about 0.0125 mole per 100 grams of the composition, said propellant having a vapor pressure in the range from about 5 to 300 pounds per square inch gauge at 70 degrees F and having a solubility in water not exceeding about 32 cc. of gas to 100 grams of water at atmospheric pressure and 25 degrees C.

"6. A package according to claim 2, in which a substantial proportion of the soap in the soap solution comprises triethanolamine stearate and the propellant comprises 1, 2 dichlor 1, 1, 2, 2 tetrafluorethane.

"10. A package according to claim 2, in which the soap in the soap solution comprises at least 30% triethanolamine stearate and the propellant comprises dichlordifluormethane.

"16. A package comprising a pressure-tight container having a valve-controlled opening and containing a composition for use in producing a stable lather consisting essentially of a liquid mixture of an aqueous soap solution and a volatile propellant in liquid phase, the composition being confined in the container under the vapor pressure of the propellant, said soap solution comprising a solution which is non-gelling at room temperatures and which contains from about 5% to about 18% by weight of soap, said propellant comprising at least one compound selected from the group consisting of the substantially water-insoluble fluorinated-chlorinated ethanes and methanes in which all of the

hydrogen atoms are replaced by chlorine and fluorine and in which the number of fluorine atoms in the molecule at least equals the number of chlorine atoms, the proportion of propellant being from about .07 to about .025 mole per 100 grams of the composition, said propellant having a vapor pressure in the range of from about 15 to about 65 pounds per square inch gauge at 70 degrees F.

"20. A package according to claim 16 in which the propellant consists of a mixture of dichlorodifluormethane and 1, 2-dichlor 1, 1, 2, 2 tetrafluorethane and in which the soap in the soap solution comprises a higher saturated fatty acid triethanolamine soap and includes a lesser proportion of sodium soap."

The defendant Colgate-Palmolive became interested in a pressurized shaving cream when "Rise" came on the market; but although it had 200 or more chemists in its service and although it purchased packages of "Rise" and had them analyzed, the record shows that it was unable to develop a satisfactory product until it had employed Fine, who had been working for Snell in the development of "Rise". He gave Colgate the formula which brought success to its efforts and which embodied the formula of "Rise" in combination with a formula which Colgate had theretofore not found successful. He gave Colgate, also, the benefit of knowledge obtained at Snell's with respect to improving the "Rise" formula by superfatting so as to produce a smoother lather and one which gives the feeling on the skin produced by the so-called brushless shaving creams. Colgate had Fine to file applications for patents covering this improved lather. Notwithstanding this experience and attempts to obtain patents in its own behalf on the subject matter, Colgate argues that the patent here in suit is lacking in invention and is anticipated by both domestic and foreign patents and by prior use.

The three domestic patents relied on as anticipations were all considered by the Patent Office before granting the patent. They are Rotheim No. 1,892,750 of 1937, Getz No. 2,294,172 of 1948 and Boe No. 2,524,590 of 1950. We agree with the trial judge that none of these anticipates and that taken together they do not negative invention in the patent in suit. Rotheim relates to a method of atomizing materials of a liquid or semi liquid consistency. Liquid soap is given as one of the materials that may be atomized. No Freons are listed as propellants. Getz is a patent for aerating food products such as whipped cream, where a solution and not an emulsion is what is desired. Its only possible relevancy is that it lists among the propellants Freon-12, which has long been used as a propellant of insecticides. Boe relates to spraying. While it lists Freons, among other gases, as propellants and suggests that the gases listed may be mixed to arrive at a desirable vapor pressure, it does not specify which gases. It does not suggest the creation of a lather, but points out how foaming may be prevented.

Foreign patents relied on by defendants were the Belgian patent to Estignard-Bluard of 1949 and Argentine and Panama patents to Daggett & Ramsdell of 1946. These patents were excluded on legal grounds by the trial court, the Belgian patent on the ground that although the patent was granted by decree prior to the conception date of the invention involved in the patent in suit, it was not opened to the public until after that date, the Argentine and Panama patents on the ground that only the claims of the patent could be considered and these were irrelevant. Assuming without deciding that there was error in the exclusion of these patents, the position of defendants is not helped, since neither of these teaches how to produce the pressurized shaving cream of the patent in suit. The Belgian patent relates to the formation of pressurized gaseous emulsions and lists a large number of gaseous propellants, but not including Freon 114, with all sorts of liquids to be used therewith including soaps as emulsifying agents only. It suggests

the problem of developing a pressurized shaving cream but does not teach which of the propellants should be used for that purpose or with what combination of soaps they should be used. The Argentine and Panama patents relate to spraying cosmetics and, while formulas for shaving creams are included among the cosmetics to be sprayed, none of these formulas would aid in solving the problem which was solved by the patent in suit. They merely list "propellants" without indicating what mixture of propellants is to be used with what mixture of soaps.

Defendants rely upon prior use by Gebauer and Segelken. Gebauer developed a shampoo which jelled and which used Freon-11 as a propellant. It manifestly did not anticipate nor suggest the pressurized shaving cream of the patent. Segelken was the chemist employed by Daggett-Ramsdell upon whose experiments the Argentine and Panama patents were obtained. While he testifies that in the course of his experiments he produced a satisfactory pressurized shaving cream, it is not shown that he used the combination either of propellants or soaps prescribed by the patent or that he eliminated objectionable matters eliminated by that combination or achieved the results obtained by it. The evidence relied upon falls far short of the sort of evidence necessary to invalidate a patent by oral evidence of prior use. See the *Barbed Wire Patent*, 143 U. S. 275, 284; *Adamson* v. *Gilliland*, 242 U. S. 350; *Hoeltke* v. *C. M. Kemp Mfg. Co.*, 4 Cir. 80 F. 2d 912, 923.

The real question as to the validity of the patent is not one of anticipation or of prior use but of invention. The question is whether the product of the patent is mere aggregation, in which old elements accomplish independently what they did in the prior art, or whether there is a true combination in which old elements have been combined to produce a new and useful result. We think that the latter is the case. What we have is not the mere use of propellant gases to extrude shaving soap from a container. But the use of particular propellant gases liquefied under pressure and

combined in such way with particular aqueous soap solutions as to produce an emulsion, which, when released from the container, becomes a lather composed of tiny gas bubbles coated with soap and useful for shaving—a product which was new and useful, which the expert chemists of Colgate had tried unsuccessfully to produce, and which achieved at once unqualified commercial success.

A sufficient answer to the argument that nothing more is involved than the skill of the art is that the patentees experimented for months in the effort to produce the pressurized shaving cream of the patent before their efforts finally resulted in success, that Colgate's efforts to produce it proved unsuccessful and that, after it had been produced and Colgate had purchased it on the market and had it analyzed, Colgate's corps of expert chemists were still not able to produce it until the knowledge of one of the patentees was availed of. As said by Mr. Justice McKenna in the *Grant Tire* case, *Consolidated Rubber Co.* v. *Consolidated Tire Co.*, 220 U. S. 428, 435, "Knowledge after the event is always easy, and problems once solved present no difficulties, indeed, may be represented as never having had any, and expert witnesses may be brought forward to show that the new thing which seemed to have eluded the search of the world was always ready at hand and easy to be seen by a merely skillful attention. But the law has other tests of the invention than subtle conjectures of what might have been seen and yet was not. It regards a change as evidence of novelty, the acceptance and utility of change as a further evidence, even as demonstration."

That the product of the patent is a true combination and not a mere aggregation clearly follows from the application of the principles approved and applied by this court in the Canned Heat Patent case, which is very much in point here. *United States Industrial Chemical Co.* v. *Theroz Co.*, 4 Cir. 25 F. 2d 387. In that case we quoted with approval the following passage from 20 R. C. L. 1125-1126, which we understand to be a correct statement of the principles of law here applicable, viz.:

Opinion of Parker, C. J., Court of Appeals.

"A combination is a composition of elements, some of which may be old and others new, or all old or all new. It is, however, the combination that is the invention, and is as much a unit in contemplation of law as a single or noncomposite instrument. The authorities establish the following propositions respecting the patentability of devices or processes of this character: (1) That a combination is patentable if it produces new and useful results, though all its constituents were well known and in common use before it was made, provided the results are a product of the combination, and not a mere aggregate of several results, each the product of one of the combined elements. (2) If it produces a different force, effect, or result in the combined forces or processes from that given by their separate parts, and a new result is given by their union. (3) If it either forms a new machine of distinct character or formation, or produces a result which is not the mere aggregate of separate contributions, but is due to the joint and cooperating action of all the elements. (4) When the several elements of which it is composed produce by their joint action either a new and useful result, or an old result in a cheaper or otherwise more advantageous way."

The patentability of "Rise" is supported by every criterion here laid down. First it produces a new and useful result, and this result is a product of the combination, and not the mere aggregate of several results; second, it produces a different result in the combined forces or processes from that given by their separate parts, and a new result is given by their union; third, it produces a result which is not the mere aggregate of separate contributions, but is due to the joint and cooperating action of all the elements; and, fourth, the several elements of which the product is composed produce by their joint action a new and useful result.

The case presented is thus fundamentally different from *Mandel Bros.* v. *Wallace*, 335 U. S. 291, where all that was done was to use a drug with a cosmetic preparation to accomplish a purpose for which its availability had long been known and recognized. What we have here is a new and useful composition of matter produced after lengthy experimentation, in which the various elements combine to produce a new and useful result. To the presumption that the finding of the District Judge as to validity is correct, a finding based upon lengthy evidence and the testimony of experts (See *Graver Tank & Mfg. Co.* v. *Linde Air Products Co.*, 336 U. S. 271), must be added the presumptions of validity arising from the fact that the patent was issued by the Patent Office, from the fact that the patented product entered at once into wide public use and achieved outstanding commercial success, and from the fact that it was copied by an infringer who was one of the largest soap manufacturers of the country and who had been trying in vain to develop a similar product but had been unable to do so until the knowledge of one of the patentees was obtained.

2. *The Trade Secrets.*

The District Judge made the following finding as to misappropriation of trade secrets by Colgate, viz.:

> "12. That the defendant Colgate-Palmolive Company has wrongfully and unlawfully misappropriated trade secrets of plaintiff by embodying them in pressurized lather shaving compositions as follows:
>
> "(a) By combining the trade secret of the formula of the soap solution in the plaintiffs' product 'Rise' with diluted Colgate lather cream to make 'Rapid Shave No. 1'.
>
> "(b) By employing in some containers of 'Rapid Shave No. 1' plaintiffs' trade secret in the heat annealing process for polyethylene siphon tubes.

"(e) By combining in a pressurized lather-generating composition a soap solution superfatted with petrolatum, carbowax and excess stearic acid, and embodying said secret combination in its products 'Rapid Shave No. 2' and 'Instant Barber Shave'.

"The above-described trade secret of sub-paragraph (e) was not disclosed or claimed in plaintiffs' United States Letters Patent No. 2,655,480, in suit."

In his opinion the District Judge set forth the facts and chronology upon which the foregoing findings were based as follows:

"We find to be correct, by the weight of the credible evidence, the following chronology of what occurred from the beginning of the development of 'Rise' to the institution of the present suit: March 1, 1949: Spitzer, Reich and Fine began their research and development work. April, 1950: Carter put 'Rise' on the market. May and July, 1950: Colgate analyzed 'Rise,' and endeavored, unsuccessfully, to duplicate it, although claiming that the 'Rise' formula had been completely reproduced but was not found satisfactory, particularly because it did not result in sufficient exhaustion of the product from the can. Also, Colgate was troubled with sputtering of the product. September, 1950: Fine entered the employment of Colgate although he had been a co-inventor of 'Rise'. October, 1950: Fine revealed to Colgate the causes of the sputtering. November, 1950: Fine disclosed to Colgate the precise formula of 'Rise,' and also combined that formula with diluted Colgate lather, to make Rapid-Shave No. 1. Further, he disclosed to Colgate, and to the latter's supplier of valves, the siphon tube annealing process employed by Carter for 'Rise'. August, 1951: Colgate filed in Fine's name a patent application covering the formula of Rapid-Shave No. 1, which embodied his

work originally done on 'Rise'. November, 1951: Fine prepared, and disclosed to Hansen, his assistant at Colgate, a duplicate formula for 'Rise,' superfatted, i. e., with excess of fatty matter (soap). September, 1952, until February, 1953: Colgate pursued its experimentation in superfatting the 'Rise' formula with petrolatum, carbowax and excess stearic acid, and then marketed its Rapid-Shave No. 2. September, 1953: Colgate filed its second patent application in the name of Fine and associates, based on the development work that Fine had done while employed by Snell."

We agree with the District Judge that Colgate must be held to liability for the appropriation and use of the "Rise" formula in developing its shaving cream. That formula had been developed in the confidential work of Snell for Spitzer. Fine as an employee of Snell was under contract with Snell not to disclose information obtained in the course of this work. Colgate knew of Fine's employment and of his work on the development of "Rise", which Colgate had been unable to produce even after purchasing it on the market and having it analyzed. Although Colgate had twice before this refused to employ Fine, and although it knew of the confidential nature of his employment with Snell, it proceeded to employ him while it was engaged in the effort to develop a pressurized shaving cream and, within a month of his employment, put him to work on the problem, which he solved immediately by using the "Rise" formula in combination with a formula which Colgate had found unsuccessful.

With respect to the superfatting, it appears that this was worked out at Snell's to give the lather a "brushless effect" after the patent in suit had been applied for. It also appears that Fine, who had developed the superfatting process in the course of his work at Snell's, suggested it to Colgate and that Colgate adopted the process and caused an application for a patent covering it to be filed by Fine.

On these facts, there can be no question but that Colgate used the knowledge of Fine in producing its pressurized shaving cream or that this knowledge related to matters which were trade-secrets of Spitzer and his associates. That Colgate did not enter into an open bargain with Fine to disclose this confidential information is no defense. Nor is it a defense that Fine upon his employment was entitled to use his skill in Colgate's interest. He was not entitled to give to Colgate the benefit of business secrets which had been disclosed to him at Snell's; and Colgate could not close its eyes to facts which clearly indicated that this what he was doing, even if he had not been employed for that express purpose. One may not escape liability for appropriating the business secrets of another by employing one who has been entrusted with the secrets and permitting him to make use of them. With respect to this the District Judge said:

> "* * * it is not necessary to, nor do we find that Colgate's employment of Fine was originally arranged for the specific purpose of having him divulge confidential information about the 'Rise' patent that he had acquired at Snell's. The basis of our decision that Colgate's action was wrongful is that Colgate knew, or must have known by the exercise of fair business principles, that the precise character of Fine's work with Snell was, in all likelihood, covered by the agreement which Fine had with Snell not to divulge trade secrets, and that, therefore, Colgate was obligated to do more than it did towards ascertaining the extent to which Fine was, in fact, restricted in what he might disclose to Colgate. That it was wrong for Colgate not to go further than it did in this respect is confirmed by the very status of Fine when he came to Colgate. At that time Fine was a joint inventor and patentee of 'Rise.' In other words, Fine was willing to be, and was knowingly placed by Colgate in work that was in direct competition with the work in which Fine had shared at

Snell's, resulting ultimately in his own patent. The very fact that Fine would do this should, per se, have raised in the minds of the representatives of Colgate, who arranged the employment of Fine, a feeling that he was entering upon a rather strange employment under the circumstances. It, therefore, was not enough for Colgate to say that they would see that Fine lived up to the limitations imposed by his contract with Snell. The weight of the credible evidence discloses that Colgate was far from being sufficiently avid to ascertain what those limitations really were, and to have Fine live up to them."

The principles of law applicable are well settled and are well stated in section 757 of the A. L. I. Restatement of Torts as follows:

"One who discloses or uses another's trade secret, without a privilege to do so, is liable to the other if

* * * *

"(c) he learned the secret from a third person with notice of the facts that it was a secret and that the third person discovered it by improper means or that the third person's disclosure of it was otherwise a breach of his duty to the other, * * *."

Directly in point in support of the proposition thus stated are *Peabody* v. *Norfolk*, 98 Mass. 452, 96 Am. Dec. 664 (opinion by Gray, J.); *Nulomoline* v. *Stromeyer*, 3 Cir. 249 F. 597; *Herold* v. *Herold China & Pottery Co.*, 6 Cir. 257 F. 911; *A. O. Smith Corp.* v. *Petroleum Iron Works of Ohio*, 6 Cir. 73 F. 2d 531, 539; *Ferroline Corp.* v. *General Aniline & Film Corp.*, 7 Cir. 207 F. 2d 912, 921; *Seismograph Service Corp.* v. *Offshore Raydist* (E. D. La.), 135 F. Supp. 342, 354; *Lamont C. & Co.* v. *Bonnie Blend Chocolate Corp.*, 238 N. Y. S. 78. See also *Smith* v. *Dravo Corp.*, 7 Cir. 203 F. 2d 369, 375; *Franke* v. *Wiltschek*, 2 Cir. 209 F. 2d 493,

495. *Nufomoline* v. *Stromeyer, supra,* was a case in which the appropriation of the trade secret resulted, as here, from the employment of one to whom it had been imparted in the course of a former employment. In *Herold* v. *Herold China & Pottery Co., supra,* Judge Knappen, speaking for the Court of Appeals of the Sixth Circuit, stated the rule as follows:

> "The rule is well settled that secret formulas and processes, such as are claimed to be involved here, are property rights which will be protected by injunction, not only as against those who attempt to disclose or use them in violation of confidential relations or contracts express or implied, but as against those who are participating in such attempt with knowledge of such confidential relations or contract, though they might in time have reached the same result by their own independent experiments or efforts."

We do not think that the finding, 12(b), with respect to the annealing of the polyethylene tubes by dipping them in hot water can be sustained. While Fine learned of this at Snell's and communicated his knowledge to Colgate, the process was one which was well known and cannot be treated as a trade secret or a confidential disclosure. *American Potato Dryers* v. *Peters,* 4 Cir. 184 F. 2d 165, 172; A. L. I. Restatement of Torts, sec. 757 Comment (b) pp. 5-6. This, however, is not material since no injunctive relief is granted with respect thereto and the damages, whether based on the use of the original "Rise" formula or the superfatted formula, would not be affected thereby.

3. *The Decree.*

Decree was properly entered enjoining infringement of the patent and awarding damages because of infringement, and, as to Colgate, awarding damages from the time that this defendant began using the trade secrets which it had obtained by the employment of Fine. *Hoeltke* v. *Kemp Mfg.*

Co., 4 Cir. 80 F. 2d 912, 922, 923; *C. & O. R. Co.* v. *Kaltenback*, 4 Cir. 95 F. 2d 801, 807; *Ackerman* v. *General Motors Corp.*, 4 Cir. 202 F. 2d 642, 645. The decree properly ordered that all rights under the patent applications filed by Fine at Colgate's direction be assigned to plaintiffs. Without intimating any opinion as to whether patent should issue on these applications, we think it clear that, if patents should issue, all rights therein, in equity and good conscience, belong to plaintiffs, since the discovery or invention involved was made by Fine while employed for the purpose of making it. *Standard Parts Co.* v. *Peck*, 264 U. S. 52; *Becher* v. *Conlure Laboratories*, 279 U. S. 388; *Houghton* v. *United States*, 4 Cir. 23 F. 2d 386, 388; *Saco Lowell Shops* v. *Reynolds*, 4 Cir. 141 F. 2d 587; *Reynolds* v. *Whitin Machine Works*, 4 Cir. 167 F. 2d 78, 86; *Shellmar Products Co.* v. *Allen-Qualley Co.*, 7 Cir. 36 F. 2d 623.

Question is raised as to the awarding of attorneys' fees against Colgate under 35 USC 285; but this was a matter resting in the sound discretion of the trial court and we cannot say that the discretion was abused. *Orrison* v. *C. Hoffberger Co.*, 4 Cir. 190 F. 2d 787, 791; *Aeration Processes Inc.* v. *Walter Kidde & Co.*, 2 Cir. 177 F. 2d 772; *Pacific Contact Laboratories* v. *Solex Laboratories*, 9 Cir. 209 F. 2d 529, 533. This is not an ordinary case of infringement. It is a case of deliberate and wilful infringement based upon and made possible by appropriation of trade secrets upon the basis of which Colgate has itself attempted to obtain a patent. The court below has termed the defense "specious". Whether "specious" or not, the circumstances were certainly sufficient to make this an "exceptional" case within the meaning of the statute, the purpose of which was to give the court power to throw the burden of unnecessary and vexatious litigation on the shoulders of those who are responsible for it.

Other questions raised by the appeal warrant but scant mention. It is urged that there was error in refusing to require plaintiffs to furnish to defendants the correspond-

ence passing between plaintiffs' agents and counsel with reference to the Rotheim patent when it was being considered by the Patent Office in connection with the patent in suit. The motion was denied on the ground that it involved privileged communications of counsel, but the correspondence was proffered for examination by the court. Aside from the question of privilege, it is a matter resting in the discretion of the court as to how far parties should be allowed to go in a fishing expedition of this sort; and there is nothing to show that the discretion was abused or that there was anything in connection with this correspondence which would warrant our sending the case back for rehearing. The same may be said as to the action of the court in holding the parties to the trial of the issues involved in the case and in excluding evidence offered with respect to the use of propellants in the art relating to insecticides. Complaint is made that the trial judge was impatient with counsel, but an examination of the record shows that he tried the case carefully and with a great deal more patience than most judges would have exercised under similar circumstances. He gave six weeks to a case which should have been tried in a much shorter period, and at its conclusion counsel for defendants expressed their appreciation of the patience which he had exhibited throughout the trial.

The decree appealed from will be affirmed.

Affirmed.

APPENDIX C.

Second Opinion of the United States Court of Appeals for the Fourth Circuit.

On Motion For Leave to Proceed in the District Court.

Decided April 1, 1957.

Before Parker, Chief Judge, and Soper and Sobeloff, Circuit Judges.

Per Curiam:

This is a motion for leave to move in the District Court to be relieved of the effect of a stipulation admitting the infringement of certain claims of a patent in suit. The case was before us on appeal in *Colgate-Palmolive Company et al. v. Carter Products, Inc. et al.*, 4 Cir. 230 F. 2d 855, and involved U. S. patent No. 2,655,480 relating to a pressurized shaving cream. In the District Court the defendant, Colgate-Palmolive Company, had admitted that certain of the products which it marketed infringed certain claims of the patent and the case was tried on the question of validity. The District Court held the patent valid as to all of its claims, enjoined infringement and ordered an accounting as to damages for infringement of the claims as to which infringement had been admitted. We affirmed this decree. Colgate-Palmolive is now seeking to be relieved of its stipulation admitting infringement on the ground that this court in its decision has limited the effect of the claims as to which infringement was admitted by limiting the invention to which the claims relate.

The motion of Palmolive must be denied on the ground that there is no basis for the contention that this court intended to limit or did limit the scope of the invention or the claims of the patent in any way. On the contrary, this

court placed upon the patent the same interpretation as was placed upon it by the District Court, quoted from the specification without suggesting any of the limitations now relied on by Palmolive, and nowhere intimated that the scope of the claims should be in any way limited. It is argued that in giving the history of the invention, the court described it in a more limited way than the claims; but this was not intended to limit and did not limit the claims which were set forth and discussed in another portion of the opinion, and which, on well settled principles, measure the scope of the patent. It is argued that this court intended to confine the patent to the contents of the commercial product "Rise"; but the opinion of this court does not sustain the contention. It is perfectly clear from a reading of the whole opinion that in the occasional use of the word "Rise" in describing the invention, there was no intention to limit the claims to the contents of the commercial product.

There is no allegation that the stipulation was entered into as the result of fraud or mistake. It was made by able and experienced patent lawyers who thoroughly understood what they were doing and who knew that the claims in question, if valid, were infringed by the products which had been placed on the market by their client. Having chosen to narrow their fight to the issue of validity and having lost on that issue, they must abide by the result. After validity and infringement have been decided against them in the District Court and the decree of that court has been affirmed by this court with denial of certiorari by the Supreme Court, it is too late to start all over again and deny liability on a ground that has been abandoned in the course of the trial.

Question has been raised as to whether it is necessary since the adoption of the Rules of Civil Procedure for leave to be obtained from the appellate court for the trial court to consider a motion such as this. Without passing on the general question as to whether leave must be obtained to prosecute a motion in the District Court to modify a judg-

ment which has been affirmed on appeal (See Moore's Federal Practice vol. 7, pp. 339-340) we think that the judge below properly ruled that leave must be obtained in the present circumstances, since the granting of the motion would necessarily involve an interpretation of our decision and a holding that the scope of the claims of the patent had been limited by that decision.

With respect to products as to which no stipulation of infringement was made, Colgate-Palmolive is, of course, not precluded by the stipulation from denying infringement.

Motion Denied.

APPENDIX D.

Opinion of the United States District Court for the District of Maryland.

(Filed March 10, 1955.)

COLEMAN, C. J.:

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This is a suit based upon United States Patent No. 2,655,480, issued October 13, 1953, on application filed November 2, 1949, to Joseph Spitzer, Irving Reich and Norman Fine. The corporate plaintiff, hereinafter called Carter, is the exclusive licensee under the patent which, in the words of the patent itself, "relates to a composition for use in producing a soap or a detergent lather without resorting to any manual or mechanical whipping or agitating operation."

More specifically, it embraces a pressurized self-generating lather composition in a small can with a press-button, outlet valve which Carter manufactures and markets as a shaving preparation under the name "Rise." The patent hereinafter will be referred to as the Spitzer patent.

There are four defendants (a fifth, Noxzema Chemical Co., Inc., having been dismissed before trial), namely, Colgate-Palmolive Company, hereinafter called "Colgate"; Stalfort Pressure-Pak Corporation and John C. Stalfort & Sons, Inc., hereinafter referred to, jointly, as "Stalfort," and Read Drug and Chemical Company, hereinafter referred to as "Read."

The Spitzer patent embraces 21 claims, but only 8 of them are in suit, namely, nos. 5, 6, 8, 9, 10, 15, 18 and 20, are alleged to be infringed, although all 21 are covered by defendant's counterclaim of invalidity. Colgate admits

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infringement of these 8 claims by one or the other of its products, known as Rapid-Shave and Barber Shave. Stalfort is charged with infringement of 5 claims, Nos. 6, 8, 9, 10 and 19, by packaging and pressurizing a self-generating

shaving lather composition for the Mennen Company, called "Foam Shave," and shipping it to Mennen's customers; Read is charged with infringing by reason of selling as a retailer, Rapid Shave, Barber Shave and Foam Shave. Both Stalfort and Read deny any infringement. All defendants assert the defense of invalidity of the Spitzer patent.

In addition to denying invalidity, plaintiffs claim additional damages from defendant Colgate on the ground that it wrongfully appropriated plaintiffs' trade secrets involved in the composition of "Rise," which two of the plaintiffs, Spitzer and Small, as owners of the patent, developed jointly with the corporate plaintiff, Carter; and plaintiffs also claim that Colgate utilized these trade secrets in developing its competitive products just referred to. The two main questions for determination in the present suit are, therefore: (1) whether the Spitzer patent is valid; and, (2) whether Colgate wrongfully appropriated any trade secrets of Carter relating to "Rise." These questions will be considered in the order just stated.

Patent Validity

In considering the question as to the validity of the Spitzer patent, it is essential, first, to understand the state of the shaving preparation art at the time "Rise" first came

on the market in April, 1950, with a label bearing the words "Patent Pending" and "Secret Formula."

Prior to this time, lather for shaving had always been made by whipping air into a soap and water solution by using a shaving brush, either with the long familiar, but now rather obsolete mug, and more recently with tubed shaving cream whipped into a lather on the face by a brush. An adaptation of this principle for the professional barber is the rather modern lather-making machine used in barber shops, where air is mechanically whipped into a soap solu-

tion to form a lather by a motorized process. All of these lathers, whether made by brush or by machine, employ ordinary air as the bubble-forming gas.

The other relatively recent and prevalent preparation to facilitate shaving is the so-called "brushless shaving cream." This forms no lather, but is merely spread on the face like cold cream, to provide a hair-softening medium and a lubricant for the razor blade. Brushless shaving creams are relatively inefficient compared with lather. They are less pleasing to use, harder to remove from the razor and the washbowl, and are in vogue primarily because of greater convenience, since no whipping up of lather is required.

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Since the composition of the "Rise" patent is not confined to use for shaving, but expressly includes use for "shampooing or other washing or cleansing operations," it is appropriate to quote the following statement from the "Rise" patent as to what the patentees understood to be the state of the prior art in respect to shampooing: "In shampooing the hair, soap solutions are generally applied to the hair and then worked into a lather with the hands. The working up of lather delays the actual hairwashing operation and the rubbing of the hair and scalp incident to mechanically working up the lather may be undesirable in some cases."

The object of the invention and the composition employed to attain these objects are set forth in great detail in the patent, from which we quote as follows at some length, because of the highly technical character of the subject matter: "The present invention has for its object the provision of an improved composition for forming soap or synthetic detergent lather of fine quality without the use of a brush or any mechanical whipping mechanism or operation. The composition of the present invention provides a lather, such as a shaving, shampooing or washing lather, that is formed as the composition is released from

its container and may be directly applied to the skin, hair, or other part or material in lather form without the use

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of a brush or other applying instrument and without preliminary mechanical or manual lather forming operations.

"In general, the above and other objects of the invention are carried out by employing a composition comprising a water solution of a suitable soap or like detergent and a highly volatile propellant. At least a substantial proportion of the propellant used in the mixture is insoluble in the soap solution and the two primary ingredients are mixed and maintained under sufficient pressure so that the insoluble portion of the propellant is in liquid phase, existing as droplets or in the form of a liquid—liquid emulsion in the soap solution. The mixed primary ingredients are confined at the vapor pressure of the propellant in a pressure-tight container having an opening controlled by a suitable manually operable valve. When the valve is opened, the pressure on the composition is released as it emerges from the container with the result that a fine textured creamy lather is produced. The action is apparently such that the volatile propellant liquid, entrapped as an emulsion within the liquid solution, vaporizes upon the release of the pressure therefrom, forming fine gas cells throughout the liquid soap solution and thus forming it into a lather.

* * * * *

"The nature of the soap or detergent used, although

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not critical, has an effect on the type of lather produced. Suitable soaps include the soluble stearate soaps, such as the potassium, ammonium and soluble amine soaps of commercial stearic acid, particularly the triethanolamine and morpholine soaps of commercial stearic acid. The product sold commercially as stearic acid is actually a mixture consisting primarily of stearic and palmitic acid. We shall

use the term 'stearates' herein to designate soaps of commercial stearic acid, although soaps of chemically pure stearic acid would be the equivalent for the purposes of this invention. The stearates may be made by neutralization of stearic acid with suitable alkali, or may be introduced in the form of animal fats, such as tallow, which are rich in stearic acid and which, when saponified, form soaps rich in stearic acid. Mixtures of the various stearate soaps may be used, and small proportions, preferably less than 5 per cent, of a less soluble soap, such as a sodium stearate soap may be used with the more soluable stearate soaps mentioned above to secure the desired consistency, particularly when the product is used to produce a shaving lather. Vegetable oil soaps, including the soaps of cocoanut oil, cottonseed oil, olive oil, soya oil, etc., may be used either alone or in admixture with the soluble stearate soaps. When the vegetable oil soaps are used alone, or as the primary soap

ingredient, the resultant lather is somewhat looser, coarser and less stable than when soluble stearate soaps or mixtures including a substantial proportion thereof are employed. For this reason, when the composition is to be used for producing shaving lather, a substantial proportion of soluble stearate soap is used, whereas compositions producing shampoo or washing lathers preferably compriso or contain a substantial proportion of vegetable oil soaps. On the other hand, vegetable oil soaps may to advantage be used in admixture with soluble stearic acid soaps to prepare a shaving lather producing product for the purpose of making the soap solution less likely to gel at low temperatures than solutions made from the stearate soaps alone."

After setting forth a list of 19 examples of soap solutions recommended in preparing the patent composition, the amounts being given in percent by weight of the soap and water solution, the propellant ingredient of the invention is also described in great detail. We quote again at

some length as follows: "Generally speaking, the propellant ingredient of our invention is a volatile organic material that exists as a gas at ordinary room temperatures, exists largely as a liquid at elevated pressures practically maintainable in suitable containers for our composition

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and that has a low solubility in water. The propellant must be of such nature that it does not destroy the lather or decompose the lather-producing soap in solution.

"We have discovered that relatively insoluble saturated aliphatic hydrocarbons and relatively insoluble partially fluorinated and partially or wholly chlorfluorinated hydrocarbons having vapor pressures within the range from about 5 to 300 pounds per square inch gauge, and preferably from about 30 to 80 pounds per square inch gauge at 70° F., possess these properties. The propellant may be formed of a mixture of two or more such compounds which, although the individual ingredients may have vapor pressures outside the desired range, have, when combined, a vapor pressure within that range. The water solubility of the propellant or propellant mixtures should be such that they exist mainly as a liquid phase undissolved in the soap solution when the two are mixed under pressure sufficient to maintain the propellant in the liquid phase.

"Particularly when the product is used to produce shaving lather, it may be desirable to avoid the use of propellants that result in a marked tingling or burning sensation when the composition is applied to the skin. We have found that the useful lather-producing propellants are generally those with very low solubility in water. The propellant

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should have a solubility such that less than about 32 cc. of the propellant gas will dissolve in 100 grams of water at one atmosphere absolute pressure and about 25° C. The best propellants have a solubility of less than about 10 cc. of gas in 100 grams of water at the stated pressure and temperature. In general, the least soluble propellants pro-

duce little or no burning sensation on the skin, particularly if hydrocarbons in which the hydrogen atoms are substituted by chlorine atoms alone or by more chlorine atoms than fluorine atoms are avoided. We have discovered that the straight chain saturated aliphatic hydrocarbons of suitable vapor pressure, which comprise propane, butane, isobutane and cylobutane are suitable lather-forming propellants and do not cause an undesirable burning sensation. The inflammability of these propellants introduces a fire hazard. Also usable, particularly in admixture with other propellants, are the saturated, partially but not completely fluorine substituted aliphatic hydrocarbons of suitable vapor pressure, such as 1,1 difluorethane (CH_3CHF_2), which causes little tingling of the skin. The most desirable propellants for lather forming compositions are the substantially water insoluble chlorine and fluorine substituted hydrocarbons of the proper vapor pressure range. Exam-

ples of these propellants are:

1,2 dichlor 1,1,2,2, tetrafluorethane ($CClF_2CClF_2$).
Trichlortrifluorethane ($C_2Cl_3F_3$).
Dichlordifluormethane (CCl_2F_2).
Monochlordifluormethane ($CHClF_2$).
Monofluortrichlormethane ($CFCl_3$).
1,1 difluorethane (CH_3CHF_2).
1 monochlor 1,1 Difluorethane ($CClF_2CH_3$).

* * * * *

Our composition is preferably enclosed in a container from which it is propelled as needed by the propellant gas pressure in the head space of the container. As the amount of liquid composition in the container decreases, the concentration of propellant in the liquid mixture drops due to the fact that some of the propellant evaporates to fill the increased head space. Thus, the density of the lather increases as the contents of the container decreases. For this reason, we prefer to use such a proportion of propel-

lant to soap solution that the initial lather density when the container is substantially full lies under about 0.15 gram per cc., where the composition is to produce shaving lather. If the initial lather density is below about 0.06 gram per cc., the final lather will be dry and uneven."

The patent specifications conclude with a recital of 12 examples of stable, shaving lather-producing compositions. The ingredients, namely, (1) the soap solutions and, (2) the propellants, are given by weight when released

to atmospheric pressure, at normal room temperatures. Three examples of shampoo and other lather-producing compositions are also set forth.

All of the 8 claims of the Spitzer patent that are in suit are limited to lather-forming and non-smarting propellants generally known under the trade name of "Freon." Claim 6 is limited to dichlorotetrafluoroethane ($CCl\ F_2$. $CClF_2$), which is Freon-114; claim 8 to dichlorodifluoromethane (CCl_2F_2), which is Freon-12; claim 9 to Freon-114; claim 10 to Freon-12; claims 18 and 20 embrace a specific group of five Freons having the optimum non-smarting and other desirable lather characteristics, including Freons-12 and -114; and claims 5 and 15 contain limitation as to the solubility and molecular structure of the propellants, for the purpose of also providing optimum characteristics in a shaving-lather composition. The characteristics of these claims will be hereinafter considered in more detail.

A—Prior Patents

In support of their contention that the Spitzer patent is invalid, defendants rely upon three prior United States patents; i.e., to Rotheim, No. 1,892,750, issued January 3, 1937; to Goetz, No. 2,294,172, issued August 25, 1942, and to Boe, No. 2,524,590, issued October 3, 1950. Reliance is also placed upon a Swedish patent to Rotheim, No. 77,668, issued November 23, 1928, which is substantially the same as the

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American Rotheim patent, No. 1,892,750, issued January 3, 1887, hereinafter analysed, and also upon three other foreign patents as follows: Belgian patent No. 487,623, to Estignard-Blucard; Argentine patent No. 59,548, and a corresponding Panama patent, No. 157, both to Daggett & Ramsdell, Inc.

(1) Foreign Patents

Before taking up the three American patents above named, we will first consider the Belgian, the Argentine and the Panama patents in this order (omitting further consideration of the Swedish patent to Rotheim for the reason that it is substantially the same as the American patent issued to Rotheim which we will shortly analyse).

We turn then to the Belgian patent. Colgate maintains that it completely destroys the claim of validity of the Spitzer patent because of its subject matter, and because it ante-dated the invention embraced in the Spitzer patent and therefore is within the prohibition of Section 102(a) of the Patent Act of 1952 (35 U. S. C. A. (1952) Sec. 102(a)). This Section reads as follows: "A person shall be entitled to a patent unless—

"(a) the invention was known or used by others in this country, or patented or described in a printed publication

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in this or a foreign country, before the invention thereof, by the applicant for patent, * * *."

In addition to documentary evidence, Carter and Colgate produced testimony of experts in Belgian patent law. This evidence clearly establishes that application for the Belgian patent was made on March 1, 1949; that on March 31, 1949, a degree was signed by the Belgian Minister of the Interior, but that the laying open of the patent to the public did not occur until July 1, 1949, i.e., 3 months later; that this was in accordance with the usual Belgian Patent Office procedure (Sections 19, 20 and 21, Belgian Patent Law of May

24, 1954, as amended), pending which the proceedings in that Office remained secret, although the inventor, under the Belgian law, might have accelerated (or delayed) the issuance of the patent, but he did not do so, with the result that, under the Belgian law, he had no right to enforce his patent until it had been laid open to the public, although once this had occurred, the effective date of the patent reverted back to the date of application for it, insofar as recovery of damages for infringement in Belgium was concerned.

On these established facts respecting the Belgian patent, it next becomes necessary to determine when, within the meaning of the words "patented * * * in a foreign country"

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(as used in Section 102(a) of Article 35 of the Patent Act, above quoted), this patent was patented in Belgium. These words have been taken without change from R. S. 4887, and were the same in the prior enactment, R. S. 4886, both of which enactments having been consolidated into Section 102, with lettered paragraphs in the 1952 Patent Code.

It is established law that in order for a foreign patent to preclude the issue of a patent in this country within the meaning of Section 102(a), the foreign patent must have become open in the foreign country to the public. As early as 1877, in *Elizabeth* v. *Pavement Company*, 97 U. S. 126, the Supreme Court said (p. 130): "A foreign patent, or other foreign printed publication describing an invention, is no defense to a suit upon a patent of the United States unless *published* anterior to the making of the invention or discovery secured by the latter." (Emphasis supplied.) I do not find this statement has been changed either by the Supreme Court or by any decision of a lower federal court in a case where the precise question has been squarely raised and decided. See *Schoirken* v. *Swift & Courtney & Beecher Co.*, 7 Fed. 469; *Robinson's Treatise on the Law of Patents*, Vol. 1, Sec. 333, p. 456. Counsel for Colgate

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rely upon *General Electric Co.* v. *Hygrade Sylvania Corporation*, 61 F. Supp. 476; *Scovill Mfg. Co.* v. *Balistacky*, 48 F. (2d) 875, and *Scovill Mfg. Co.* v. *Satler*, 21 F. (2d) 620. However, a careful analysis of these decisions,—as to two of which (the first and the third named) no appeal was taken, and the second decision was reversed on appeal, on grounds not pertinent to the question before us,—indicates that what was said that was pertinent to the present issue was dicta.

The inconsistency—the inequity—of saying that a foreign patent may void an American patent, even though the former has never been disclosed to the public, is immediately apparent. Therefore, with respect to the Belgian patent, July 1, 1949, the date when it was first disclosed to the public under the Belgian Patent Office procedure, must be taken as the date when it was patented, and not March 31, 1949, the date of the Belgian decree. There is no contention that the patent was ever described in a printed publication in Belgium, as distinguished from the patent itself.

We therefore now turn to a consideration of what the evidence has shown with respect to the date or dates on

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which the subject matter or embodiment of each of the 8 claims in suit of the Spitzer patent was first conceived, and find as follows: the embodiment of claim 5 was first conceived by the patentees on April 22, 1949, although not reduced to practice until September 18th of the same year. However, there is no proof of lack of due diligence on the part of the patentees to reduce it to practice. Therefore, the date of conception controls. *Marconi Wireless Co.* v. *U. S.*, 320 U. S. 1; *Radio Corporation of America* v. *Radio Engineering Laboratories, Inc.*, 293 U. S. 1. The embodiments of claims 6 and 9 were also conceived on April 22, 1949, and while not reduced to practice until July 14th of the same year, again there is no proof of any lack of due

diligence to reduce them to practice. The embodiments of claims 8 and 10 were conceived April 22, 1949, and reduced to practice May 10, 1949. The embodiment of claim 15 was both conceived and reduced to practice on the same day, *i.e.*, May 10, 1949, and that of claim 18 was conceived on April 22, 1949, and reduced to practice between May 10 and 12, 1949. Lastly, the embodiment of claim 20 was conceived on May 23, 1949, but was not reduced to practice until September 18, 1949. However, there is no proof that this was an undue delay.

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It should be noted here that claims 5 and 20 embody a soap formula not even suggested in the Belgian patent, thus they need not be further considered at this point, because they cannot possibly be anticipated by the Belgian patent.

To summarize: the subject matter of each of the 8 claims in suit of the Spitzer patent was invented prior to July 1, 1949, the date when Estignard-Bliard's alleged invention was patented in Belgium. Accordingly, this Belgian patent cannot impair the validity of the Spitzer patent. Therefore, it became unnecessary at the trial to consider the subject matter of the Belgian patent.

Turning next to the Argentine patent No. 59,548, to Daggett & Ramsdell, Inc., granted August 16, 1947, i.e., more than one year before the filing of the application for the Spitzer patent, Colgate maintains that it is a bar to the validity of the Spitzer patent on two grounds: (1) that the Argentine patent itself was "a printed publication" in "a foreign country * * * more than one year prior to the date of the application" for the Spitzer patent; and (2) that by virtue of this Argentine patent, the Daggett & Ramsdell invention was "patented" in "a foreign country * * * more than one year prior to the date of the application" for the Spitzer patent, because such a printed publication or such a patent is a bar to patentability in this country

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by the express provisions of Section 102(b) of Title 35.

With neither of these contentions do we agree. In the first place, the Argentine patent was not a "printed publication" within the meaning of Section 102(b). The Argentine patent introduced in evidence is a *typewritten* document. However, defendants urge that it has to be treated as printed because the Argentine law (Section 44) provides that a copy of this typewritten document can be secured by the public without charge. But Section 44 refers to Argentine patent documents as "written". A witness who testified on behalf of Carter as an expert on Argentine patent law, explained that such does provide for partial printing of a small portion of an Argentine patent, namely, the name of the grantee, the term of the patent and a "succinct account" of the invention, but that this printing is limited to the first claim and the first drawing, if any, of the patent, which are completely unrelated to the Spitzer patent, and not relied upon by defendant. The question whether somewhat similar documents satisfied the "printed publication" requirements of our patent law was decided in the negative in *Permutit Co.* v. *Wadham*, 13 F. (2d) 454, 15 F. (2d) 29, by the Court of Appeals for the Sixth Circuit in 1926, which involved a form of German document known as a

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Gebrauchmeister. To the same effect is *Permutit Co.* v. *Graver Corporation*, 43 F. (2d) 898, a decision of the Court of Appeals for the Seventh Circuit. We do not consider that *Hamilton Laboratories, Inc.* v. *Massengill*, 111 F. (2d) 584, upon which defendants rely, is pertinent on its facts. There the court decided that deposit of a typewritten thesis in a public library in the United States constituted public knowledge in the United States. However, public knowledge in a foreign country is not pertinent to our inquiry unless embodied in a printed publication. In the *Massengill* case the court was not required to, and did not, decide this question. See also a recent decision of the Patent Office Board of Appeals, *Ex Parte Haller*, 103 U. S. P. Q. 332.

Thus we conclude that the typewritten Argentine patent is not a "printed publication" within the meaning of 35 U. S. C. Sec. 102(a) and (b).

We now turn to a consideration of the question as to whether the Argentine patent embodies an invention which was "patented" in a foreign country within the meaning of 35 U. S. C. Sec. 102(a) and (b). By an analysis of these sections we have already shown that what was publicly known or used in the foreign country is not a bar to a United States patent unless such was either *patented* or

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described in a *printed* publication in the foreign country. Thus it becomes necessary to determine what was in fact "patented" by the Argentine patent within the meaning of Section 102(a) and (b).

Two alleged experts on Argentine law testified on behalf of Carter that the claims appearing at the end of an Argentine patent represent the sole scope of the patent, regardless of what may appear in the specifications. There was some deposition testimony of an alleged expert to the contrary, but the Argentine patent itself states that the exclusive property and right of the inventor is set forth in the claims. These cover only toilet articles consisting of limited ranges of proportions of propellants and perfume in the form of a homogeneous composition, which may be sprayed like an aerosol insecticide. Thus, a pressurized self-generating shaving lather is not even suggested by these claims. The three composition examples set forth in the Argentine patent, upon which defendants rely, relate to shaving creams and bear no relationship to the *claimed* subject matter of the Argentine patent, and also are unrelated to anything else in the patent specifications.

That nothing is to be treated as patented by a foreign patent except what is actually claimed therein is well settled under our decisions. *Leeds* v. *Victor*, 213 U. S. 301;

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Permutit Co. v. *Wadham* and *Permutit Co.* v. *Graver Corporation, supra.* See also *Atlas Glass Co.* v. *Simonds Mfg.*

Co., 102 F. 643; *General Electric Co.* v. *Alexander*, 280 F. 852; *Springham's Outline of Patent Law*, 1937 Edition, page 203, and *Revise & Caesar Patentability and Validity*, 1936 Edition, page 108.

Turning to the Panama patent, since this is also a typewritten document, with claims identical with those in the Argentine patent, and since the uncontradicted testimony of an alleged expert on Panama patent law is to the effect as that of the weight of the credible testimony tive to the Argentine patent law, the same conclusion is required with respect to both documents, namely, that neither of these Latin-American documents is a "prin publication" or "patented" within the proper interpretation of those words as contained in Section 102(a) and (b) of our patent law. It thus became unnecessary to consider the subject matter of these patents.

It is to be noted that these patents were the result of abandoned experiments, which will hereinafter be referred to, conducted in the New York laboratories of Daggett & Ramsdell, a subsidiary of the Standard Oil Company of New Jersey. No application for a United States patent on the alleged inventions has ever been made. What presumably happened was that when these patent applications

for pressurized perfume spray were about to be filed in Argentina and Panama by a Doctor Fiero, these Segelken formulae were grafted onto the foreign applications, with the idea, presumably, that a Convention date might be established to support a United States patent application for them at a later date.

(2) United States Patents

We turn now to an examination of the three United States patents which defendants assert anticipate the Spitzer patent. First, as to the patent to Rotheim, No. 1,892,750, issued January 3, 1937, it teaches a method for atomizing

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liquid materials. Its object is undoubtedly distinct from that of the Spitzer patent. It relates to a spray. The Spitzer patent is for a lather-producing composition. The word "spray" is used some 30-odd times in the Rotheim patent but the word "foam" or "lather" is never used except to caution against producing it. In the Spitzer patent there is no use of the word "spray," but the word "lather" is used some 75 or more times. Furthermore, Rotheim teaches that the ingredients of his soap solution should dissolve in the propellants, whereas it is a basic requirement of the Spitzer patent combination that such ingredient shall *not* dissolve in the propellants. Thus, reliance upon Rotheim would mislead, rather than aid in, attaining what the Rotheim patent teaches. This is the position

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that Colgate itself took in connection with the application of Norman Fine, filed August 8, 1951, for a patent. It, therefore, is clear that Rotheim does not anticipate "Rise."

Second, as to the Getz patent, No. 2,294,172, issued August 25, 1942; this teaches the making of whipped cream with a propellant, that is, a gas, soluble in water and in the cream that is to be used. The gas preferred by Getz in his specification is nitrous oxide. It is uncontradicted that if such be used to produce a shaving lather, the result will be completely unsatisfactory. It is true Getz states that Freon-12 is highly water soluble. But we understand this is indisputably an erroneous statement. Thus, it is clear, without further analysis of Getz, that it is not an anticipation of the Spitzer patent. Colgate took the same position with respect to Getz in relation to the Norman Fine patent application of August 8, 1951, to which we have just referred in considering the Rotheim patent. Parenthetically, it is to be noted that the Getz patent has been held valid in the Eighth Circuit in *Aeration Processes, Inc.* v. *Lange*, 196 F. (2d) 981, but invalid in the Second Circuit in *Aeration Processes, Inc.* v. *Walter Kidde & Co., Inc.*, 170 F. (2d) 437.

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Finally, we come to the patent to Boe, No. 2,524,590, issued October 3, 1950. This again is for an aerosol spray. It does not teach the making of a lather but of a fine mist for the spraying of insecticides, fumigants, perfumes, waxes, paints, lacquers, detergents, lubricants, polishes, dies, rubber solutions, oils and other miscellaneous materials. So Boe requires that the ingredients dissolve in the propellant and he cautions against the production of a form of lather.

Colgate relies very largely on this patent, and in the course of the trial introduced samples of lather produced by Colgate's expert witness, Dr. Smith, claimed to have been produced by following the Boe specifications. However, Dr. Smith admitted that he did not follow precisely the procedures specified by Boe, pointing out that Boe says in his patent specifications that, "The emulsions contemplated by the present invention may be produced in any of the known ways of forming emulsions, no claim being made herein to the method by which the emulsions are formed." But we agree with the position taken by counsel for Carter, that this general statement is not to be construed as permission to omit, as was done in the experiments of Dr. Smith just referred to, the mixing of the liquid propellant *under*

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pressure with the material to be sprayed; and that the broad statement just quoted with respect to the use "of any of the known ways of forming emulsions" must be construed as meaning merely that, after the ingredients are put together in the way Boe specifies, they are to be homogenized or ground together. The Boe patent is basically for a spray. The word "spray" is used more than 60 times, whereas the word "foam" or "lather" is never mentioned except to caution against its production. In his application for a patent for the Rapid Shave product, Fine stated that "When the composition contains propellant in amounts up to about 15% the shaving cream is discharged

from the container in the form of a rich, stable foam. This desired foam is not produced, however, when much larger amounts, such as the 35% of propellant shown by Boe, are used. Sputtering occurs when these larger amounts of propellant are used and the product is discharged from the container in the form of droplets rather than as a foam." Professor La Mer, the inter-partes, neutral expert witness, testified that the Boe propellant proportions are in excess of the outer range specified in every claim of the Spitzer patent.

Colgate urges that one of the attorneys, now deceased, when promoting the Spitzer application in the Patent Office, deliberately misrepresented the Boe patent when he stated that "there is no disclosure in Boe of any composition capable of producing lather," or "of any composition combining an aqueous soap solution with the propellants claimed by the applicants." As to the first of these statements, it is difficult to see how it can be construed as having been made wilfully, as charged, when Boe himself insists in his specifications that he does not want to obtain lather.

As respects the second statement also, it was at most an unintentional error, and, in fact, according to the testimony of both Dr. Smith and Professor La Mer, the inter-partes neutral expert witness, the small amounts of soap solutions referred to may well have been absorbed in composition with the specified propellants. So, we conclude that this entire contention is tantamount to seizing at a straw, and unworthy of serious consideration. In fact, it is in direct contradiction of the position taken by Colgate in connection with the Norman Fine application of August 8, 1951, heretofore referred to, wherein it is said: "There is no disclosure in Boe of any composition capable of producing a lather."

Thus we must conclude that Boe does not anticipate "Rise," either by itself or coupled with what had previously been disclosed by Rotheim and Getz.

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It is significant that Rotheim and Boe were both before the Patent Office on the Spitzer application. Also, while the Getz patent, No. 2,294,712, here relied upon, was not before the Patent Office, a later, companion patent to Getz was before it, namely, Getz No. 2,435,682, issued February 10, 1948. Under the patent law "A patent shall be presumed to be valid. The burden of establishing invalidity of a patent shall rest on a party asserting it." (35 U. S. C. Sec. 282). This presumption has not been overcome by reliance upon any of these prior patents. The Patent Office is

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believed to have been correct in not treating them separately or in combination as anticipating the Spitzer discovery.

B—Prior Use

In addition to the aforegoing six patents, defendants rely, in anticipation of the Spitzer patent, upon (1) use in this country in 1946 and 1947, of a Daggett & Ramsdell product; and (2) a prior invention of the Gebauer Chemical Company, called Sonni Foam Shampoo, and sales of some 300 bottles of this product in Cleveland in October or November, 1948. Apart from the fact that this latter product was apparently a commercial failure and abandoned after only a few of the 300 bottles were actually sold, it is uncontradicted that the propellant used in it was a mixture of Freon-11 and ethyl chloride, which have neither the solubility nor the vapor pressure limitations of any of the claims of the Spitzer patent that are in suit. Furthermore, Freon-11 is not in any of the Freon groups embraced in these claims. Also, these claims require that the soap composition shall be non-jelling, which is not true of the Shimrock composition. Thus, this latter composition, by the weight of the credible evidence, falls far short of being an anticipation of "Rise."

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Turning to the Daggett & Ramsdell product, the material facts summarized are these: in 1946 one William

Segelken, a chemist with Daggett & Ramsdell, Inc., then a subsidiary of Standard Oil Company of New Jersey, secretly developed several shaving lather compositions, pressurized with either a mixture of Freon-11 and -12, or of Genetron-101, Freon-11 and Freon-12. Segelken gave samples of this composition to eight persons to try, all of whom were either his relatives or connected with his company. They were to report their evaluation of the product to him, which they did, and he, in turn, reported it to his superiors.

Segelken himself did not testify at the trial, being absent in the Armed Forces. All of the above facts have been presented to this Court by deposition only, taken recently, —eight years after the event. All of the alleged experiments have not been put in evidence because one of Segelken's notebooks is missing. Thus it is impossible to say just what composition was used by whom or, more specifically, whether the composition given to any of the eight persons for testing was, in fact, one embracing a Freon or Freons. Therefore, such proof is believed to be too inadequate to support a definite finding of anticipation. Furthermore, Daggett & Ramsdell never filed an application for

a patent on what Segelken had produced, or published it or placed it on the market. In other words, it was abandoned. Section 102(g) renders such abandonment a bar. *See Nelson* v. *Lenning*, 96 F. (2d) 508. What counsel for Carter said appears to be correct, namely, that what Daggett & Ramsdell did remained secret, effectively concealed and suppressed, until exhumed by Colgate for the defense of this case.

Thus, because of the inadequacy of proof respecting the identity of the composition that Segelken produced and, as claimed, gave to a number of people to try and report the results; and also because of his complete abandonment of whatever he may have accomplished, it becomes unnecessary to decide whether such use ever went beyond an incom-

plete, experimental stage, that is, "was known or used by others in this country before the invention" of the Spitzer patent occurred, within the meaning of Section 102(a); or "was in public use or on sale in this country, more than one year prior to the date of the application for" the Spitzer patent, within the meaning of Section 102(b). Knowledge and use in *foreign* countries is not a bar under the Statute. *Alexander Milburn Company* v. *Davis-Bournonville Company*, 270 U. S. 390; *Ellis-Foster Co.* v. *Reichhold*

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Chemicals, Inc., 198 F. (2d) 42. Furthermore, none of the Segelken formulae can, in fact, properly be interpreted as anticipating any of the eight claims of the Spitzer patent in suit because none of the combinations of these claims is suggested by such evidence of Segelken's work as is before the Court.

In the opinion of the Supreme Court by Mr. Justice Roberts in the case of *United States* v. *Dubilier Condenser Corp.*, 289 U. S. 178, 188, it is said that the act of invention "consists neither in finding out the laws of nature, nor in fruitful research as to the operation of natural laws, but in discovering how those laws may be utilized or applied for some beneficial purpose, by a process, a device or a machine. It is the result of an inventive act, the birth of an idea and its reduction to practice; the product of original thought; a concept demonstrated to be true by practical application or embodiment in tangible form." In *Diamond Rubber Company of New York* v. *Consolidated Rubber Tire Company*, 200 U. S. 428, at 435, the Supreme Court had previously said: "Knowledge after the event is always easy, and problems once solved present no difficulties, indeed, may be represented as never having had any, and expert witnesses may be brought forward to show that the

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new thing which seemed to have eluded the search of the world was always ready at hand and easy to be seen by a merely skilful attention. But the law has other tests

of the invention than subtle conjectures of what might have been seen and yet was not. It regards a change as evidence of novelty, the acceptance and utility of change as a further evidence, even as demonstration." See also *Graver* v. *Linde*, 336 U. S. 271; *Hatster Bros. Co.* v. *Sales Affiliates, Inc.*, 164 F. (2d) 260. It is true that where an article has been used and the method of its manufacture is known, more than a new advantage of the product must be discovered in order to claim invention. It is not invention to perceive that the product which others had discovered had qualities that they failed to detect. See *General Electric Co.* v. *Jewel Incandescent Lamp Co.*, 326 U. S. 242; *DeForest Radio Co.* v. *General Electric Co.*, 283 U. S. 664. The application of a combination of old elements to a new and closely analogous use, if that use to one skilled in the prior art would be indicated as an appropriate use, is not invention. See *Paramount Publix Corp.* v. *American Tri-Ergon Corp.*, 294 U. S. 464. But, as was said in *Goodyear Tire & Rubber Co.* v. *Ray-O-Vac*, 321 U. S. 275, at 279: "Viewed after the event, the means. * * * adopted seemed simple,

and such as should have been obvious to those who work in the field, but this is not enough to negative invention."

Section 103 of the Patent Act (35 U. S. C. Sec. 103) provides that a patent may not be obtained "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made, to a person having ordinary skill in the art to which such subject matter pertains." Does the subject matter of the Spitzer patent meet this requirement of the law? We are satisfied that it does, when interpreted in the light of the controlling principle just given. After lengthy experimentation by Spitzer and his co-inventors, they discovered and perfected, we find, a combination different from any pressurized self-generating lather composition hitherto known to the art; that this was "the result

of an inventive art" "the product of original thought," and that therefore it rises to the status of invention. It is significant that Colgate, in the autumn of 1954, so considered and advertised its own product which it admits infringes the Spitzer patent by stating to its British customers that "We believe that Palmolive Rapid Shave is the greatest discovery in shaving history since the inven-

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tion of the safety razor."

It is not considered necessary to analyze here the various decisions upon which counsel for Colgate rely in opposition to the conclusion which we reach, particularly *Corona Cord Tire Company v. Dovan Chemical Corporation*, 276 U. S. 358, *Egbert v. Lippmann*, 104 U. S. 333, *Sewall v. Jones*, 91 U. S. 171, *Minerals Separation North American Corporation v. Magma Copper Company*, 280 U. S. 400, and *General Electric Co. v. Wabash Appliance Corporation*, 91 F. (2d) 904, because from an examination of these decisions and others upon which counsel for Colgate rely, it is clear that they relate to factual situations quite different from those in the present case.

Precisely what is this new combination? The individual ingredients of the shaving soap solutions embraced in the Spitzer patent were old in the art. So were the Freons. Also, Freons had previously been used successfully as propellants in aerosols and insecticides. In other words, the *combination* of some Freons with the Spitzer soap solutions was not new in the art. But the combination of an aqueous soap solution, emulsified in the liquid base with a Freon which had not only low water solubility but which combined the properties of (1) not smarting or burning the face, and (2) good, stable lather, was unknown. There

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were a number of Freons used in the propellant art which did not smart or burn the face, but they did not afford a good stable lather. Conversely, there were those Freons that were known to give a satisfactory lather but they

were disagreeable on the skin. It is this combination of a relatively small group of Freons, that manifest those desirable properties of low water solubility and the optimum characteristics of non-smarting and of lather quality, with aqueous soap solutions that constitutes the invention of Spitzer and his associates. They discovered that all three of these characteristics were inter-related. They found that Freons having a solubility in water not exceeding about 32 cc. of gas to 100 grams of water to be the type of Freons productive of the optimum of the other two qualities desired in the lather composition. This is what the specifications of the Spitzer patent teach, and all 8 of the claims in suit are responsive to this teaching. Claims 6 and 9 are limited to the use of Freon-114. Claims 8 and 10 are limited to the use of Freon-12. Claims 18 and 20, which are based upon claim 16 as a parent claim, prescribe the use of any one of a group of five Freons, including 12 and 114. Claims 5 (based on claim 2) and 15 embrace the use of a broader group of Freons, but in this group also are *only*

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Freons that are essentially non-smarting to the face, and stable in lather forming. In fact, the entire 21 claims of the patent are so limited.

To summarize: we conclude that the Spitzer patent has not been anticipated by (1) any prior patent in this or any foreign country; (2) any prior printed publication in this or any foreign country, and (3) any prior public use or sale in this country. We find that the Spitzer patent is valid as to all claims, and nothing more need be said with respect to the question of infringement by Colgate of the 8 claims of the patent which are in suit, because Colgate admits infringement of these claims. It also follows that little need be said with respect to whether the other defendants, the Stalfort companies and Read, are also infringers, because it is clear from the evidence that they have infringed,—the Stalfort companies, because they served as agents of Mennen to combine the soap solution

and the propellant of the Rise product in containers, then to pack these containers and ship them to Mennen's customers; and Read, because it purchased from Colgate the Rise product, ready for sale, and sold it to the retail trade. What those defendants did is clearly infringement, as

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defined in the Patent Act, 35 U. S. C., Section 271(a). We are not, however, prepared to say that they "actively induced" infringement, or knowingly contributed to it, within the meaning of Section 271(a) and (b).

ALLEGED WRONGFUL APPROPRIATION OF CONFIDENTIAL INFORMATION AND TRADE SECRETS

Turning to the second cause of action, namely, that based upon the alleged wrongful appropriation of trade secrets by Colgate, Carter asserts that Colgate wrongfully appropriated trade secrets relating to the composition of "Rise." This Court has jurisdiction of this cause of action by reason of Section 1338(b) of Title 28 U. S. C. A., which vests in the District Courts "original jurisdiction of any civil action asserting a claim of unfair competition when joined with a substantial and related claim under • • • patent • • • laws." In the present case the claim of unfair competition is directly joined with the claim of infringement of the Spitzer patent. So, in determining the question whether Colgate has wrongfully appropriated any of Carter's trade secrets relating to the subject matter of the Spitzer patent this Court is not limited to a consideration of the law of the locus of the alleged wrongful appropriation, or of the law of any other particular jurisdiction. As a matter of fact, as will be disclosed by the analysis of decisions about to be made, there is virtual

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uniformity in the decisions as to the principles of law governing this question.

The contentions of Carter may be summarized as follows: that Norman Fine, a former employee of Foster D.

Snell, Inc., research chemists employed by Carter, left his employment where he participated in the development of "Rise" and went to work for the defendant Colgate; that he was under contractual obligation to Snell not to disclose trade secrets that he had learned during the course of his employment at Snell's; that, in spite of his obligation to maintain this confidential relationship, Fine revealed to Colgate, less than two months after he began his work with Colgate, the exact formula of the composition of "Rise"; that he combined at Colgate one-half of "Rise" with one-half of the composition that had been formulated by Allen, a co-worker at Colgate; that the resulting product eliminated the problems encountered by Colgate prior to Fine's arrival at Colgate, and that this product was marketed by Colgate as Rapid-Shave No. 1.

Carter further contends that Fine proceeded to alter Rapid-Shave No. 1 so as to make it more nearly duplicate

"Rise" by eliminating the sodium and potassium soaps which were in Allen's composition, and by duplicating the 8 percent triethanolamine stearate of "Rise"; that, at the same time, Fine made certain additions to this second product that were calculated to improve the characteristics of the lather, Fine having previously learned from his development work on "Rise" at Snell's that these additions would impart the desired characteristics to the lather; that, in spite of the fact that Fine, under his contract with Snell, had been enjoined to strict secrecy at Snell's, he disclosed these matters to his new employer, Colgate; that Fine compounded for Colgate Rapid-Shave No. 2, a product that was a closer duplicate of "Rise" than Rapid-Shave No. 1, and that, in addition, Fine, through Colgate's patent counsel, proceeded to file patent applications on these trade secrets, which are still pending.

Carter still further contends that Fine had learned during the course of his development work on "Rise" at Snell's that a light mineral oil could be successfully used

with certain soaps without producing an adverse effect upon the quality of the lather, and yet at the same time operate as a sufficient depressant of the propellant to permit the use of Freon-12 alone; that the elimination of Freon-114, which was an expensive item, would thus result

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in a more economical product, yet possessing the characteristics of the more expensive one; that Fine disclosed this trade secret to Colgate; that Colgate proceeded to utilize this valuable information by developing and putting Instant Barber Shave on the market, in spite of the fact that Fine had told Colgate's patent counsel that he had worked on this precise disclosure at Snell's, while developing "Rise."

Colgate, on the other hand, contends that none of Fine's knowledge acquired at Snell's which he disclosed to Colgate constituted trade secrets because the information was already well known in the trade, and had been available to the public since April, 1950, when "Rise" was put on the market. However, Colgate saw fit to file two patent applications based on this information, prior to Carter's institution of the present suit. Thus, the contention that this information was previously known in the trade is clearly inconsistent with Colgate's filing these two applications, covering the same subject matter.

Carter maintains that since there is an abundance of other evidence in the present case of novelty of the information disclosed to Colgate by Fine which is adequate to support patentability, a fortiori, it is adequate to constitute a trade secret, since novelty required for the latter

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is less than that required for patentability.

Carter further contends that Fine did not restrict his breach of confidence to the area of formulating the composition contained in the can; that Colgate, in its efforts to duplicate "Rise," encountered the problem of how to overcome the splitting of the polyethylene dip tube, for which

no solution was known to Colgate before Fine came to Colgate, but that Fine again drew upon his store of Carter's trade secrets and presented to Colgate the idea of annealing the dip tube, which was used by Colgate in marketing Rapid-Shave No. 1.

We find to be correct, by the weight of the credible evidence, the following chronology of what occurred from the beginning of the development of "Rise" to the institution of the present suit: March, 1949: Spitzer, Reich and Fine began their research and development work. April, 1950: Carter put "Rise" on the market. May and July, 1950: Colgate analyzed "Rise," and endeavored, unsuccessfully, to duplicate it, although claiming that the "Rise" formula had been completely reproduced but was not found satisfactory, particularly because it did not result in sufficient exhaustion of the product from the can. Also, Colgate was troubled with sputtering of the product. September, 1950: Fine entered the employment of Colgate although he had been a

co-inventor of "Rise." October, 1950: Fine revealed to Colgate the causes of the sputtering. November, 1950: Fine disclosed to Colgate the precise formula of "Rise," and also combined that formula with diluted Colgate lather, to make Rapid-Shave No. 1. Further, he disclosed to Colgate, and to the latter's supplier of valves, the syphon tube annealing process employed by Carter for "Rise." August, 1951: Colgate filed in Fine's name a patent application covering the formula of Rapid-Shave No. 1, which embodied his work originally done on "Rise." November, 1951: Fine prepared, and disclosed to Hansen, his assistant at Colgate, a duplicate formula for "Rise," superfatted, *i.e.*, with excess of fatty matter (soap). September, 1952, until February, 1953: Colgate pursued its experimentation in superfatting the "Rise" formula with petrolatum, carbowax and excess stearic acid, and then marketed its Rapid-Shave No. 2. September, 1953: Colgate filed its second patent application in the name of Fine and associates, based on the

development work that Fine had done while employed by Snell. October 13, 1953: the Spitzer ("Rise") patent was issued and the present suit was instituted the same day.

From the aforegoing the Court believes that only one conclusion is justified, namely, that Carter has met the burden of proof which rests upon it that the information

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disclosed to it by Fine, as hereinbefore set forth in summary, amounted to wrongful appropriation of secret, confidential information, acquired by Fine while at Snell's. True, there is no evidence that Colgate induced Fine to come to them. But it is not necessary to, nor do we find that Colgate's employment of Fine was originally arranged for the specific purpose of having him divulge confidential information about the "Rise" patent that he had acquired at Snell's. The basis of our decision that Colgate's action was wrongful is that Colgate knew, or must have known by the exercise of fair business principles, that the precise character of Fine's work with Snell was, in all likelihood, covered by the agreement which Fine had with Snell not to divulge trade secrets, and that, therefore, Colgate was obligated to do more than it did towards ascertaining the extent to which Fine was, in fact, restricted in what he might disclose to Colgate. That it was wrong for Colgate not to go further than it did in this respect is confirmed by the very status of Fine when he came to Colgate. At that time Fine was a joint inventor and patentee of "Rise." In other words, Fine was willing to be, and was knowingly placed by Colgate in work that was in direct competition with the work in which Fine had shared at Snell's, resulting

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ultimately in his own patent. The very fact that Fine would do this should, per se, have raised in the minds of the representatives of Colgate, who arranged the employment of Fine, a feeling that he was entering upon a rather strange employment under the circumstances. It, therefore, was not enough for Colgate to say that they would see that

Fine lived up to the limitations imposed by his contract with Snell. The weight of the credible evidence discloses that Colgate was far from being sufficiently avid to ascertain what those limitations really were, and to have Fine live up to them.

In *E. I. DuPont De Nemours Powder Co. v. Masland*, 244 U. S. 100, the Supreme Court said (p. 102): "The word property as applied to trademarks and trade secrets is an unanalyzed expression of certain secondary consequences of the primary fact that the law makes some rudimentary requirements of good faith. Whether the plaintiffs have any valuable secret or not the defendant knows the facts, whatever they are, through a special confidence that he accepted. The property may be denied but the confidence cannot be. Therefore the starting point for the present matter is not property or due process of law, but that the defendant stood in confidential relations with the plaintiffs, or one of them. These have given place to hostility,

and the first thing to be made sure of is that the defendant shall not fraudulently abuse the trust reposed in him. It is the usual incident of confidential relations. If there is any disadvantage in the fact that he knew the plaintiffs' secrets he must take the burden with the good."

In *A. O. Smith Corporation v. Petroleum Iron Works Co. of Ohio*, 73 F. (2d) 531, in an action for patent infringement and also for damages for appropriation of secret processes in connection with welding that was useful in fabrication of stills employed in refining crude oils, the Court said (73 F. (2d) 531, at 538-9): "The mere fact that the means by which a discovery is made are obvious, that experimentation which leads from known factors to an ascertainable but presently unknown result may be simple, we think cannot destroy the value of the discovery to one who makes it, or advantage the competitor who by unfair means, or as the beneficiary of a broken faith, obtains the desired knowledge without himself paying the price in labor, money, or

machines expended by the discoverer. Facts of great value may, like the lost purse upon the highway, lie long unnoticed upon the public commons. Hundreds pass them by, till one more observant than the rest makes discovery. It is idle to say that, in the eyes of the law, interest may

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not in such case follow discernment. We think the court below was right in rejecting the master's application of the law in respect to those secret processes held by the master to be invalid for the reason that they were in the public domain, or within the reach of the skilled mechanic in the trade.

* * * * * * * * *

"* * * The defendant had sought in many ways to obtain the knowledge necessary to enable it to compete successfully with the plaintiff in the making of pressure vessels. It finally engaged Hawthorne, who for many years had been employed in the plaintiff's welding department, and who was under express contract not to divulge any information received by him during his confidential relationship to the plaintiff. The conclusion is inescapable that the defendant knew of Hawthorne's employment in a confidential capacity. Shanor, its superintendent, had been denied access to the plaintiff's welding shop, though shown its other activities. The infringement of the secret processes followed Hawthorne's engagement with the defendant. Hawthorne had represented to the defendant that electric welding was more highly developed, more economically done, and on heavier products by the plaintiff than by others. The defendant largely increased his salary over

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that paid by its predecessor. Hawthorne's own estimate of the value of plaintiff's secrets and their cost of acquisition are revealed in his address to the National Board of Welding Engineers after he joined the defendant's organization, and the extensive advertising by the defendant of the novelty of its Fluid-Fusion welding process is further

corroboration both of the value of the secret processes, their recent discovery, and the fact that they did not lie exposed in the public domain."

In *Schreyer* v. *Casco Products Corp.*, 190 F. (2d) 921, the appellate court affirmed the lower court's judgment on the cause of action for unfair competition, although reversed the lower court's finding that the patent involved, which was for an electric steam iron, was invalid. The Court said (190 F. (2d) at 924): "The information confidentially obtained and used during 1948 was substantially disclosed by the issuance of the patent on July 5, 1949, and the use of that source of information would not, apart from the risk of infringement, have been wrongful. *Conmar Products Corp.* v. *Universal Slide Fastener Co.*, 2 Cir., 172 F. (2d) 150. Nevertheless, the trial court found that the use of the confidential disclosures enabled the defendant to produce and market its iron at an earlier date than would have been possible had it relied upon independent

research into the construction of the plaintiff's iron then on the market or upon the patent. It accordingly ordered an accounting of the profits resulting from the acceleration of the date when production was possible."

In *Conmar Products Corporation* v. *Universal Slide Fastener Co.*, 172 F. (2d) 150, cited in the quotation just made from the opinion in the *Schreyer* decision, it was held by the Second Circuit Court of Appeals that a contract binding an employee to secrecy, imposed secrecy only until the issue of the patent involved. See also *Picard* v. *United Aircraft Corporation*, 128 F. (2d) 632; *Pennington Engineering Co.* v. *Houde Engineering Corporation*, 136 F. (2d) 210. However, in the Sixth and Seventh Circuits, it has been held otherwise. See *Shellmar Products Co.* v. *Allen-Qualley Co.*, 87 F. (2d) 104, and *A. O. Smith Corporation* v. *Petroleum Iron Works Co. of Ohio*, 74 F. (2d) 934. We believe that the rule followed in the Second Circuit is the

correct one, and this is conceded on behalf of Carter in the present case.

In *Vulcan Detinning Company* v. *American Can Company*, 72 N. J. Eq. 387, the Court said (pp. 398-401): "It is all but impossible to demonstrate, by direct proof, that a corporation has knowledge apart from the knowledge possessed by the agencies through which its functions are performed; hence, the mere fact that the complainant is unable to adduce any corporate resolution of the defendant expressly asserting its knowledge of the complainant's secret and of Assmann's connection therewith does

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not prevent our reaching the conclusion that the defendant had such knowledge, if such is the inference to which the testimony, by irresistible weight of probability tends.

. . . . . .

"By force of this rule and of the reasoning upon which it rests, the American Can Company is chargeable with the knowledge possessed by Assmann only in case the principal, that is, the Can company, if acting for itself in the acquisition of the complainant's process, or (being a corporation) if acting through some other agent, would have received notice of the material matters known to Assmann. In applying this rule we think it is reasonably certain that if the board of directors of the American Can Company, when they contemplated going into competition with the complainant in the detinning business by use of its process, has set about the acquisition of a practical knowledge of the construction and working details of such process, either as a board of directors or by the employment of agents not already possessed of such knowledge, they must inevitably have run up against the barrier of secrecy maintained by the complainant for the express purpose of heading off such competition. In that case they would either have failed to obtain the secret of the complainant's process except with its knowledge and consent, or if they did obtain it clandestinely from someone who held it in confidence,

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would have done so under circumstances that would have put them upon inquiry, and hence, have charged their corporation with whatever knowledge such inquiry would have led to. This is the test established by the case of State v. Sooy (as applied to a corporation) and the conclusion to which it leads is that the defendant corporation holds the fruits of Assmann's agency in its behalf, with the burden of so much of the knowledge possessed by him as would have come to it if it had acted for itself or through an agent who was not already possessed of such knowledge."

The decisions upon which Colgate relies are not believed to be opposed to the principles laid down in the decisions which we have analyzed and which represent the weight of authority, because it is clear that those other decisions embrace facts quite distinct from the facts in the present case. This is true, for example, of *Telechron Inc.* v. *Parissi*, 120 F. Supp. 235, and also of *Lyon* v. *Bausch & Lomb Optical Co.*, 119 F. Supp. 42. In the first of these cases, the Court, after a lengthy detailed analysis of the facts, held that the evidence was insufficient to sustain the patentee's counter-claim that the corporation by which the patentee had been employed, and its subsidiary corporation, by their manufacture and sale of flashing light alarm clocks, etc.,

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wrongfully appropriated and used certain concrete information and ideas relative to inventions set forth in the patents, and which had been disclosed to the corporations in confidence prior to filing and issuance of the patents; but that on the contrary the evidence strongly indicated independent development. The Court said, 120 F. Supp. 235, at 240: "Therefore, Parissi does not shoulder in my judgment the serious burden imposed upon him by law, or by even a fair preponderance of the evidence prove the elements necessary to support his counterclaim of unjust enrichment through violation of confidential disclosures. Many of the elements necessary to such recovery under the

law are not shown clearly and sufficiently to carry conviction. The essentials of knowledge, confidence, understanding, express or implied, of compensation, novelty, secrecy; the combination of which constitutes the fraud and breach of faith, in my judgment is not sufficiently proven."

The second, the *Lyons* case, involved a patent on a method for applying hard, durable, low-reflecting films of inorganic salts on the surfaces of optical elements. In addition to patent infringement, plaintiff asserted a secondary cause of action for unjust enrichment by defendant optical company's alleged wrongful use of confidential information, given the company by the plaintiff as to the patented proc-

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ess. But the Court said, 119 F. Supp. 42, at 52: "Defendant's use of the process in its non-governmental work commenced at about the time that the plaintiff wrote the defendant calling its attention to the fact that he had received a patent. From the time of the issuance of the patent the information regarding the process was public knowledge. Therefore the use by the defendant of the process after the issuance of the patent was not wrongful, apart from the risk of infringement. *Schreyer* v. *Casco Products Corp.*, 2 Cir., 190 F. (2d) 924. *It is true that the defendant became skilled in the operation of plaintiff's process prior to the grant of the patent, and that this circumstance gave the defendant the advantage of being able to commence promptly to use the process on its non-governmental work. This advantage, however, so acquired was an unavoidable incident to the lawful use of the process by the defendant in preforming its government contracts for the manufacture of the optics for the Navy. Since there was no unlawful use of the process prior to the issuance of the patent, the defendant may not be held to have been unjustly enriched by making use of confidential disclosures regarding the process.*" (Emphasis supplied.)

In *Tabor* v. *Hoffman*, 118 N. Y. 30, the Court said (pp. 34-37): "It is conceded by the appellant that, independent

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of copyright or letters patent, an inventor or author, has, by the common law, an exclusive property in his invention or composition, until by publication it becomes the property of the general public. * * *

"As the plaintiff had placed the perfected pump upon the market, without obtaining the protection of the patent laws, he thereby published that invention to the world and no longer had any exclusive property therein. (Rees *v.* Peltzer, 75 Ill. 475; Clemens *v.* Balford, 14 Fed. Rep. 728; Short's Laws of Literature, 48.)

"But the completed pump was not his only invention, for he had also discovered means, or machines in the form of patterns, which greatly aided, if they were not indispensable, in the manufacture of the pumps. This discovery he had not intentionally published, but had kept it secret, unless by disclosing the invention of the pump, he had also disclosed the invention of the patterns by which the pump was made. The precise question, therefore, presented by this appeal, as it appears to us, is whether there is a secret in the patterns that yet remains a secret, although the pump has been given to the world? The pump consists of many different pieces, the most of which are made by running melted brass or iron in a mold. The mold is formed

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by the use of patterns, which exceed in number the separate parts of the pump, as some of them are divided into several sections. The different pieces out of which the pump is made are not of the same size as the corresponding patterns, owing to the shrinkage of the metal in cooling. In constructing patterns it is necessary to make allowances, not only for the shrinkage, which is greater in brass than in iron, but also for the expansion of the completed casting under different conditions of heat and cold, so that the different parts of the pump will properly fit together and

adapt themselves by nicely balanced expansion and contraction to pumping either hot or cold liquids. If the patterns were of the same size as the corresponding portions of the pump, the castings made therefrom would neither fit together, nor if fitted, work properly when pumping fluids varying in temperature. The size of the patterns cannot be discovered by merely using the different sections of the pump, but various changes must be made and those changes can only be ascertained by a series of experiments, involving the expenditure of both time and money. Are not the size and shape of the patterns, therefore, a secret which the plaintiff has not published and in which he still has exclusive property? Can it be truthfully said

that this secret can be learned from the pump when experiments must be added to what can be learned from the pump before a pattern of the proper size can be made? As more could be learned by measuring the patterns; than could be learned by measuring the component parts of the pump, was there not a secret that belonged to the discoverer, until he abandoned it by publication, or it was fairly discovered by another?

"If a valuable medicine, not protected by patent, is put upon the market, anyone may, if he can by chemical analysis and a series of experiments, or by any other use of the medicine itself aided by his own resources only, discover the ingredients and their proportions. If he thus finds out the secret of the proprietor, he may use it to any extent that he desires without danger of interference by the courts. But, because this discovery may be possible by fair means, it would not justify a discovery by unfair means, such as the bribery of a clerk, who in course of his employment had aided in compounding the medicine, and had thus become familiar with the formula."

* * * * * *

"The fact that one secret can be discovered more easily than another, does not affect the principle. Even if resort

to the patterns of the plaintiff was more of a convenience than a necessity, still if there was a secret, it belonged

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to him, and the defendant had no right to obtain it by unfair means, or to use it after it was thus obtained. We think that the patterns were a secret device that was not disclosed by the publication of the pump, and that the plaintiff was entitled to the preventive remedies of the court. While the defendant could lawfully copy the pump, because it had been published to the world, he could not lawfully copy the patterns because they had not been published, but were still, in every sense, the property of the plaintiff, who owned not only the material substance, but also the discovery which they embodied."

In *Fairchild Engine & Aeroplane Corporation* v. *Cox*, 50 N. Y. S. 2d 643, the Court granted an injunction against disclosure by the defendant of a process for the bonding of aluminum to steel, known as the Al-Fin process applied to aircraft engine cylinders, which the defendant had learned confidentially while serving in a fiduciary capacity as vice-president and director of the Fairchild Corporation and an affiliate company. Thereafter the defendant became associated with General Bronze Corporation in such manner that the confidential knowledge of this process was to be utilized for the benefit of this latter company, in return for which the defendant was to receive royalties and other substantial compensation.

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In the course of its opinion, in which the Court relied upon a number of the cases which have just been analyzed, the Court said (pp. 656-657): "Of course if what the defendant threatens to reveal to General Bronze is generally known, he cannot be stopped. But to get on the track of patentability is to get on the wrong track. What these plaintiffs seek is protection of a trade secret. A trade secret need not be patentable. Unless this cardinal distinction is kept clearly in mind the transcendent issue which this case presents is likely to become blurred beyond

recognition. The doctrine of 'prior art,' which the defendant invokes as a shield, is of vital importance in patent cases, but it is not so significant in this case. • • •

"The defendant's reply that what he proposed to do does not concern a 'secret,' is contradicted by his own conduct and words. From the mass of testimony the transcendent fact emerges that the plaintiffs' process succeeded where others failed. No one else achieved the practical results that plaintiffs achieved. To retort that others might or could have done it, or were on the same track, does not alter or weaken the fact that the plaintiffs did do it. The plaintiffs' process 'clicked.' And if outsiders knew the 'trick,' why didn't General Bronze engage them? Why

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not Gay—a licensed engineer, and who affirms that with appropriate backing and facilities he could have accomplished the same result? Gay could have been engaged for substantially less money than Cox—a non-engineer—was to receive. And what of the other experts who testified for the defense regarding their familiarity with the subject? The suspicion is more than faint that Cox knew the trick and it was the trick that General Bronze desired."

In the *American Law Institute Restatement of the Law of Agency*, Section 396, the law with respect to using confidential information after termination of an agency is thus stated: "Unless otherwise agreed, after the termination of the agency, the agent: (a) has no duty not to compete with the principal; and (b) is subject to a duty to the principal not to use or disclose to third persons, on his own account or on account of others, in competition with the principal or to his injury, trade secrets, written lists of names, or other similar confidential matters given to him only for the principal's use or acquired by the agent in violation of duty. The agent may use general information concerning the method of business of the principal and the names of the customers retained in his memory, if not acquired in violation of his duty as agent." Also, in the

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Restatement of the Law of Torts, the general principles governing liability for disclosure or use of another's trade secret are thus set forth, Section 757: "One who discloses or uses another's trade secret, without a privilege to do so, is liable to the other if (a) he discovered the secret by improper means, or (b) his disclosure or use constitutes a breach of confidence reposed in him by the other in disclosing the secret to him, or (c) he learned the secret from a third person with notice of the fact that it was a secret and that the third person discovered it by improper means or that the third person's disclosure of it was otherwise a breach of his duty to the other, or (d) he learned the secret with notice of the fact that it was a secret and that its disclosure was made to him by mistake."

Even if the Rise formula itself be treated as public knowledge, still Fine disclosed to Colgate a whole series of experiments that he had conducted at Snell's which taught Colgate the "know-how" necessary to produce Rapid-Shave No. 1, *i.e.*, the use of the triethanolamine soap of Rise in combination with potassium and sodium soaps. Similarly, a comparison of what is disclosed by the laboratory note-books covering what Fine did at Snell's, with the note-books covering what he did at Colgate's which led to the produc-

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tion of Rapid Shave No. 2 and Barber Shave, shows that the work was identical. It is to be noted also that Fine appears as a co-inventor in the Colgate application for a patent for Rapid Shave No. 2. Counsel for Colgate admitted that Rise was first actually reproduced for Colgate by Fine in November, 1950, that is, after he had been at Colgate's for a number of weeks. However, even assuming —although it is believed contrary to fact,—that the exact formula of Rise had been known to Colgate before Fine came there, Fine, nevertheless, committed a breach of the confidential information that he had obtained at Snell's by disclosing to Colgate the formula for using the tri-

ethanolamine soap of Rise in combination with the potassium and sodium soaps that led to Rapid Shave No. 1. Thus from any angle that Fine's conduct may be approached, it is clear that it was wrongful prior to the issuance of the Spitzer patent, because prior to such issuance, Fine disclosed to Colgate what he had learned at Snell's, and thereby Colgate obtained an advantage that it otherwise would not have obtained at such time. See *Chesapeake & Ohio Ry. Co.* v. *Kaltenbach*, 124 F. (2d) 375.

Further analysis of decisions is believed to be unnecessary to show that the law is generally well established

that a third party that uses trade secrets of another,—as Colgate has done,—which have been obtained through breach of a confidential relationship, either with actual knowledge of such breach, or of facts from which knowledge of it is reasonably to be inferred, is liable equally with the one who makes the breach,—as Fine has done.

LACHES

No question arises here under the Maryland three year statute of limitations. The present suit was brought in October, 1953, and the first Colgate product was originally put on the market in a sales test in January, 1952, and in the fall of the same year, it was put on sale generally. See *Mas* v. *Coca Cola Co.*, 198 F. (2d) 380. However, Colgate asserts the defense of laches on the ground that Carter knew about Colgate's marketing of its products as early as January, 1952, and that the very substantial expenditures which Colgate made in this connection might have been avoided had Carter indicated promptly that it was going to assert its present claim of unfair competition. But this contention is lacking in merit. It was Carter, not Colgate, that had been misled, to its detriment. In June, 1951, Snell sent the Patent Department of Colgate a copy of Fine's employment contract during the period

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that he had worked with Snell. The terms of this contract were the subject of correspondence, and Colgate's patent attorney gave Snell assurances that Fine, during his work for Colgate, would respect all the requirements arising from his earlier relations with Snell on behalf of Carter.

Thus, there remains the additional question to be determined, namely, the measure of damages applicable against Colgate. This is prescribed in *Hoeltke* v. *C. M. Kemp Mfg. Co.*, 80 F. (2d) 912, and *Reynolds* v. *Whitin Machine Works*, 167 F. (2d) 78, both being decisions of the Court of Appeals for this, the Fourth Circuit. These two decisions have not heretofore been analysed in this opinion because the facts upon which they are based are believed not to have been as similar to the facts in issue as were the facts in the cases which have been analysed herein, although the *Hoeltke* and *Reynolds* decisions fully support the legal principle upon which we rest our conclusion that Colgate is liable to Carter for wrongful appropriation of the latter's trade secrets with respect to the invention of the Spitzer patent. The measure of damages prescribed in both of those cases and applicable to the present case is thus stated: "The general rule, of course, is that the monopoly of a patent which entitles a patentee to damages for infringement

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commences only when the patent is granted; but where, in advance of the granting of a patent, an invention is disclosed to one who, in breach of the confidence thus reposed, manufactures and sells articles embodying the invention, such person should be held liable for the profits and damages resulting therefrom, not under the patent statutes, but upon the principle that equity will not permit one to unjustly enrich himself at the expense of another. * * * It would be a reproach to any system of jurisprudence to permit one who has received a disclosure in confidence to thus appropriate the idea of another without liability for the wrong." (80 F. (2d) 912, at 922-3, and 167 F. (2d) 78, at 86).

Opinion by William C. Coleman, C. J., Filed March 10, 1955.

SUMMARY OF CONCLUSIONS

The conclusions of the Court, summarized, are as follows: (1) All of the 21 claims of the Spitzer patent are valid; (2) defendants Colgate, Stalfort and Read have infringed claims 5, 6, 8, 9, 10, 15, 18 and 20; and (3) defendant Colgate has wrongfully appropriated confidential information and trade secrets of Carter.

A decree will be signed, embracing the aforegoing and:

(1) permanently enjoining defendants Colgate, Stalfort and Read from committing further acts of infringement of the Spitzer patent; (2) requiring these defendants to account to Carter, and to the other plaintiffs as their interests may appear, for damages and profits occasioned by the infringements; (3) requiring defendant Colgate to account to Carter, and to the other plaintiffs as their interests may appear, for such damages as the plaintiffs have sustained through Colgate's wrongful appropriation of the plaintiffs' confidential information and trade secrets, and for profits derived by Colgate by reason of the same; (4) referring this proceeding to a Special Master for the purpose of determining the amount of damages and profits occasioned by the infringements of defendants Colgate, Stalfort and Read and by the wrongful appropriation of confidential information and trade secrets by defendant Colgate; and (5) requiring the defendants to pay the costs of this proceeding in the proportions to be hereinafter fixed by this Court.

APPENDIX E

Mandate and Order of the Court of Appeals

Mandate

To the Honorable Judge of the United States District Court for the District of Maryland

GREETING:

WHEREAS, lately in the United States District Court for the District of Maryland, before you or some of you, in a cause between Carter Products, Inc., George G. Spitzer and Marvin Small, Plaintiffs, and Colgate-Palmolive Company, Stalfort Pressure-Pak Corporation, John C. Stalfort & Sons, Inc., and Read Drug and Chemical Company, Inc., Defendants; No. 6924 Civil; wherein the decree of the said District Court, entered in the said cause on the 18th day of May, 1955, is in the words following, to wit:

[Here follows a quotation of the entire decree of the lower court]

AND WHEREAS, in the term of November, in the year of our Lord one thousand nine hundred and fifty-five, the said cause came on to be heard before the said United States Court of Appeals for the Fourth Circuit, on the said record, and was argued by counsel.

In consideration whereof, IT IS NOW HERE ORDERED, adjudged and decreed by this Court that the decree of the said District Court appealed from, in this cause, be, and the same is hereby, affirmed with costs.

JOHN J PARKER
Chief Judge Fourth Circuit

MORRIS A. SOPER
United States Circuit Judge

FILED

Mar. 8, 1956

R. M. F. WILLIAMS, JR.
CLERK

You, therefore, are hereby commanded that such further proceedings be had in said cause, by way of execution, as according to right and justice, and the laws of the United States, ought to be had, the said appeal notwithstanding.

Witness the Honorable EARL WARREN, Chief Justice of the United States, the 15th day of October, in the year of our Lord one thousand nine hundred and fifty-six.

Costs of Appellees:

Cost of printing brief and appendix at not exceeding $1.50 per printed page.

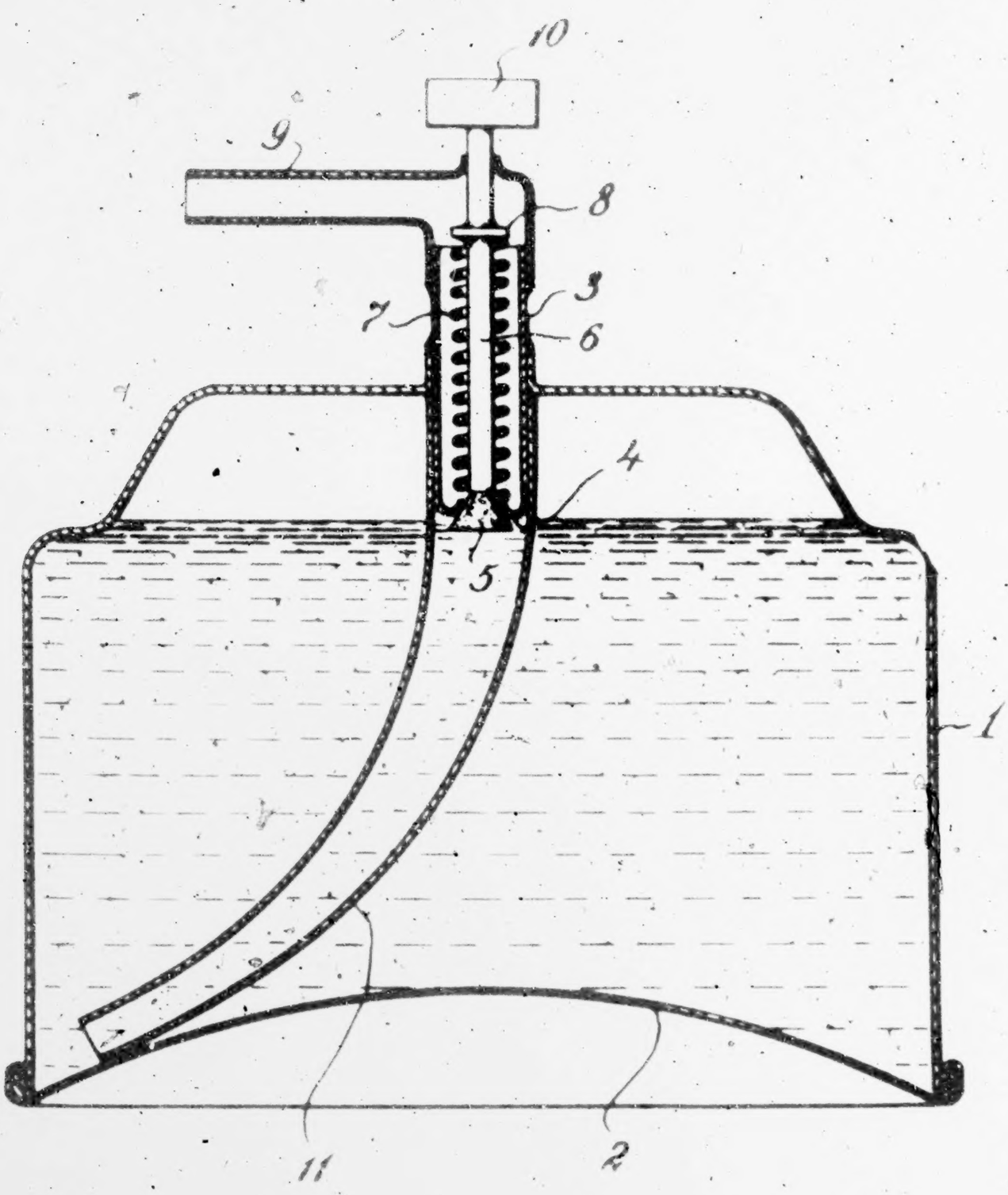
s/ RICHARD M. F. WILLIAMS, JR.
Clerk of the U. S. Circuit Court of Appeals for the 4th Circuit

Plaintiffs' Exhibit 39

Oct. 13, 1953 J. G. SPITZER ET AL 2,655,480

LATHER PRODUCING COMPOSITION

Filed Nov. 2, 1949



IRVING REICH
JOSEPH G SPITZER
NORMAN FINE
INVENTORS

BY
Pennie, Edmonds, Morton & Barrow
ATTORNEYS

Patented Oct. 13, 1953 2,655,480

UNITED STATES PATENT OFFICE

2,655,480

LATHER PRODUCING COMPOSITION

Joseph G. Spitzer, Yonkers; Irving Reich, Brooklyn, and Norman Fine, Mount Vernon, N. Y.; said Reich and said Fine assignors to said Spitzer

Application November 2, 1949, Serial No. 125,032

21 Claims. (Cl. 252—90)

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This invention relates to a composition for use in producing a soap or detergent lather without resorting to any manual or mechanical whipping or agitation operation.

Prior to the present invention, preparations employed to produce lather for shaving, shampooing or other washing or cleansing operations, have included soaps in solid, powdered, liquid or cream form which are whipped up into a lather by agitation sometimes with the aid of a brush or other whipping device, as in preparing shaving lather sometimes by agitation with the hands as in shampooing, and sometimes by agitation by water in preparing the lather for other washing operations. For example, preparations employed to prepare the beard and skin for shaving have generally included lathering soaps and brushless creams. Lathering soaps in various forms are whipped up into a lather with water on the face or in a cup or bowl, by means of a brush. This lathering operation is time-consuming and somewhat inconvenient, and the brushless creams were introduced to obviate the shortcomings of the lathering operation.

Brushless creams are typically modified vanishing creams that are spread upon the face in the form in which they are sold without forming any lather. They are somewhat greasy or salve-like in consistency and are quite adherent to the skin, tending to adhere to other surfaces and for this reason tend to clog razors and to cause or promote the clogging of drains. The heavy texture of brushless creams makes them less desirable than the light and more readily spreadable soap lather, particularly in that the creams do not permit as close or satisfactory shaves as the lathers and unless very thoroughly rinsed off, leave a greasy or sticky feeling on the skin.

In shampooing the hair, soap solutions are generally applied to the hair and then worked into a lather with the hands. The working up of lather delays the actual hair washing operation and the rubbing of the hair and scalp incident to mechanically working up the lather may be undesirable in some cases.

The present invention has for its object the provision of an improved composition for forming soap or synthetic detergent lather of fine quality without the use of a brush or any mechanical whipping mechanism or operation. The composition of the present invention provides a lather, such as a shaving, shampooing or washing lather, that is formed as the composition is released from its container and may be

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directly applied to the skin, hair, or other part or material in lather form without the use of a brush or other applying instrument and without preliminary mechanical or manual lather forming operations.

In general, the above and other objects of the invention are carried out by employing a composition comprising a water solution of a suitable soap or like detergent and a highly volatile organic liquid, hereinafter generally termed a propellant. At least a substantial proportion of the propellant used in the mixture is insoluble in the soap solution and the two primary ingredients are mixed and maintained under sufficient pressure so that the insoluble portion of the propellant is in liquid phase, existing as droplets or in the form of a liquid-liquid emulsion in the soap solution. The mixed primary ingredients are confined at the vapor pressure of the propellant in a pressure-tight container having an opening controlled by a suitable manually operable valve. When the valve is opened, the pressure on the composition is released as it emerges from the container, with the result that a fine textured creamy lather is produced. The action is apparently such that the volatile propellant liquid, entrapped as an emulsion within the liquid soap solution, vaporizes upon the release of pressure therefrom, forming fine gas cells throughout the liquid soap solution and thus forming it into a lather.

In describing the invention in detail, reference will be made to the accompanying drawing, in which the single figure is a sectional elevation representing a can or container suitable for packaging the improved composition and provided with an outlet valve.

The nature of the soap or detergent used, although not critical, has an effect on the type of lather produced. Suitable soaps include the soluble stearate soaps, such as the potassium, ammonium and soluble amine soaps of commercial stearic acid, particularly the triethanolamine and morpholine soaps of commercial stearic acid. The product sold commercially as stearic acid is actually a mixture consisting primarily of stearic and palmitic acids. We shall use the term "stearates" herein to designate soaps of commercial stearic acid, although soaps of chemically pure stearic acid would be the equivalent for the purposes of this invention. The stearates may be made by neutralization of stearic acid with suitable alkali, or may be introduced in the form of animal fats, such as tallow, which are rich in stearic acid and which, when saponified,

form soaps rich in stearic acid. Mixtures of the various stearate soaps may be used, and small proportions, preferably less than 5 per cent, of a less soluble soap, such as a sodium stearate soap may be used with the more soluble stearate soaps mentioned above to secure the desired consistency, particularly when the product is used to produce a shaving lather. Vegetable oil soaps, including the soaps of cocoanut oil, cottonseed oil, olive oil, soya oil, etc., may be used either alone or in admixture with the soluble stearate soaps. When the vegetable oil soaps are used alone, or as the primary soap ingredient, the resultant lather is somewhat looser, coarser and less stable than when soluble stearate soaps or mixtures including a substantial proportion thereof are employed. For this reason, when the composition is to be used for producing shaving lather, a substantial proportion of soluble stearate soap is used; whereas compositions producing shampoo or washing lathers preferably comprise or contain a substantial proportion of vegetable oil soaps. On the other hand, vegetable oil soaps may to advantage be used in admixture with soluble stearic acid soaps to prepare a shaving lather producing product for the purpose of making the soap solution less likely to gel at low temperatures than solutions made from the stearate soaps alone. In preparing our product for producing shaving lather, we use upwards of 30 per cent, preferably from 60 to 100 per cent, of soluble stearate soap, the balance, if any, being an ordinary vegetable oil soap or animal fat soap, which is partially composed of stearate. Preferable soaps are triethanolamine, morpholine and potassium soaps, although ammonium soaps are usuable but have an undesirable odor.

When the product is employed to produce a relatively loose or coarse lather more suitable for shampooing or other washing than for shaving, the soap solution may be formed of vegetable oil soaps, examples of which have been referred to above, and of which cocoanut oil soaps are excellent examples. Certain synthetic surface-active agents, usually called wetting agents, may also be used as the soap ingredient. The wetting agents so employed should be anionic or non-ionic in character. They should be appreciably soluble in water and of the type that foam in water solution. Examples of such agents are triethanolamine lauryl sulfate, sodium lauryl sulfate, sodium dodecyl benzene sulfonate, and water soluble polyoxyethylene ethers of alkyl substituted phenols.

Although not essential to the invention, it may in some cases be desirable to add small proportions of the above-described anionic or non-ionic wetting agents to our lather-forming composition including other soap solutions, for the purpose of avoiding an oily residue on the skin and in order to facilitate rinsing off the lather. When thus added to another soap solution, the wetting agents should be used in relatively small proportions, preferably from about ½ per cent to about 5 or 6 per cent by weight in the soap solution.

The amount of soap employed to form the aqueous soap solution of our composition is not critical and generally depends upon the nature of the soap used. The low limit is the minimum amount that gives a satisfactory lather and the upper limit is fixed either by economic considerations or by the amount which will form a gel at the lowest temperatures likely to be encountered in use. A preferred range for all soaps is from about 5 to about 18 per cent by weight of the soap and water solution. With the soluble amine stearate soaps, the maximum range of usable soap concentration is between about 2 per cent and 30 per cent by weight if the soap is entirely or substantially composed of triethanolamine stearate. If the soap is potassium stearate, the useful range is somewhat narrower, being from about 5 to 20 per cent. When vegetable soap is used as a part of the soap mixture, the lower and upper concentration limits are raised somewhat and may be from about 5 to about 35 per cent by weight of the solution.

The following are examples of soap solutions useful in preparing our composition, the amounts being given in per cent by weight of the soap and water solution. As is customary, we generally prefer to add a small percentage of glycerine to our soap solutions for use in compositions that produce shaving lather. The glycerine is added for the known purpose of slightly increasing the stability of the lather. About 5 per cent by weight of glycerine based on the soap solution is a suitable proportion but the amount is not critical. When used, the glycerine is substituted for a part of the water in the soap solution and it may be added to each of the following examples by reducing the proportion of water indicated by an amount equal to the proportion of glycerine added.

	Per cent
1. Triethanolamine stearate	8.0
Triethanolamine soap of cocoanut oil fatty acids	2.0
Water	90.0
2. Triethanolamine stearate	10.0
Water	90.0
3. Triethanolamine stearate	3.0
Water	97.0
4. Potassium stearate	10.0
Water	90.0
5. Morpholine stearate	10.0
Water	90.0
6. Triethanolamine stearate	5.0
Triethanolamine soap of castor oil fatty acids	5.0
Water	90.0
7. Triethanolamine stearate	3.3
Triethanolamine soap of cocoanut oil fatty acids	6.7
Water	90.0
8. Triethanolamine soap of castor oil fatty acids	10.0
Water	90.0
9. Triethanolamine soap of soya oil fatty acids	10.0
Water	90.0
10. Triethanolamine stearate	8.0
Sodium stearate	2.0
Water	90.0
11. Triethanolamine oleate	10.0
Water	90.0
12. Triethanolamine stearate	10.0
Triethanolamine oleate	10.0
Water	80.0
13. Sodium lauryl sulfate	10.0
Water	90.0
14. Triethanolamine lauryl sulfate	10.0
Water	90.0
15. Sodium alkyl benzene sulfonate	10.0
Water	90.0
16. Polyoxyethylene ether of alkyl substituted phenol	10.0
Water	90.0

		Per cent
17	Triethanolamine stearate	10.0
	Sodium lauryl sulfate	0.7
	Water	89.3
18	Triethanolamine stearate	10.0
	Polyoxyethylene ether of alkyl substituted phenol	3.5
	Water	86
19	Triethanolamine stearate	
	Triethanolamine soap of cocoanut oil fatty acids	3.3
	Triethanolamine lauryl sulfate	5.4
	Water	84.6

Generally speaking, the propellant ingredient of our invention is a volatile organic material that exists as a gas at ordinary room temperatures, exists largely as a liquid at elevated pressures practically maintainable in suitable containers for our composition and that has a low solubility in water. The propellant must be of such nature that it does not destroy the lather or decompose the lather-producing soap in solution.

We have discovered that relatively insoluble saturated aliphatic hydrocarbons and relatively insoluble partially fluorinated and partially or wholly chlorfluorinated hydrocarbons having vapor pressures within the range from about 5 to about 300 pounds per square inch gauge, and preferably from about 30 to 80 pounds per square inch gauge at 70° F. possess these properties. The propellant may be formed of a mixture of two or more such compounds which, although the individual ingredients may have vapor pressures outside the desired range, have, when combined, a vapor pressure within that range. The water solubility of the propellant or propellant mixtures should be such that they exist mainly as a liquid phase undissolved in the soap solution when the two are mixed under pressure sufficient to maintain the propellant in the liquid phase.

Particularly when the product is used to produce shaving lather it may be desirable to avoid the use of propellants that result in a marked tingling or burning sensation when the composition is applied to the skin. We have found that the useful lather-producing propellants are generally those with very low solubility in water. The propellant should have a solubility such that less than about 32 cc. of the propellant gas will dissolve in 100 grams of water at one atmosphere absolute pressure and about 25° C. The best propellants have a solubility of less than about 10 cc. of gas in 100 grams of water at the stated pressure and temperature. In general, the least soluble propellants produce little or no burning sensation on the skin, particularly if hydrocarbons in which the hydrogen atoms are substituted by chlorine atoms alone or by more chlorine atoms than fluorine atoms are avoided. We have discovered that the straight chain saturated aliphatic hydrocarbons of suitable vapor pressure, which comprise propane, butane, isobutane and cyclobutane are suitable lather-forming propellants and do not cause an undesirable burning sensation. The inflammability of these propellants introduces a fire hazard. Also usable, particularly in admixture with other propellants, are the saturated, partially but not completely fluorine substituted aliphatic hydrocarbons of suitable vapor pressure, such as 1,1 difluorethane (CH_3CHF_2) which causes little tingling of the skin. The most desirable propellants for lather forming compositions are the substantially water insoluble chlorine and fluorine substituted hydrocarbons of the proper vapor pressure range. Examples of these propellants are

1,2 dichlor 1,1,2,2 tetrafluorethane ($CClF_2CClF_2$)
Trichlortrifluorethane ($C_2Cl_3F_3$)
Dichlordifluormethane (CCl_2F_2)
Monochlordifluormethane ($CHClF_2$)
Monofluortrichlormethane ($CFCl_3$)
1,1 difluorethane (CH_3CHF_2)
1 monochlor 1,1 Difluorethane ($CClF_2CH_3$)

As to these compounds, absence of tingling sensation combined with production of the best shaving lather consistency is achieved by using those propellants in which all of the hydrogen atoms are replaced by chlorine and fluorine and in which the number of fluorine atoms equals or exceeds the number of chlorine atoms, as is true, for example, of dichlordifluormethane, 1,2 dichlor 1,1,2,2, tetrafluorethane and trichlortrifluorethane.

Mixtures of different propellant compounds are useful for providing the particular vapor pressure desired, and propellants comprising mixtures of dichlordifluormethane and 1,2 dichlor 1,1,2,2 tetrafluorethane, of monofluortrichlormethane and dichlordifluormethane and of trichlortrifluorethane and dichlordifluormethane are satisfactory for this purpose. For example, dichlordifluormethane, which has a vapor pressure of about 70 pounds per square inch gauge and 1,2 dichlor 1,1,2,2 tetrafluormethane, with a vapor pressure of about 13 pounds per square inch gauge at 70° F. may be mixed in various proportions to form a propellant having an intermediate vapor pressure which is well suited for use in relatively inexpensive containers.

As stated, the fluorinated chlorinated hydrocarbons in which all of the hydrogen atoms are replaced by chlorine and fluorine and in which the number of fluorine atoms in the molecule equals or exceeds the number of chlorine atoms, are particularly desirable. They have low solubilities—only a few cubic centimeters of the gas being soluble per 100 grams of water at room temperature and one atmosphere pressure, and we believe this low solubility is significant in accounting for their good performance. The fluorinated chlorinated propellant compounds which do not meet the foregoing requirements as to hydrogen atom substitution are definitely less desirable. This is true of monochlordifluormethane which has one unreplaced hydrogen atom in the molecule. Similarly, 1 monochlor 1,1 difluorethane which has three unreplaced hydrogen atoms in the molecule, is a less desirable propellant. So also is monofluortrichlormethane, which has more chlorine than fluorine atoms in the molecule. All of these less desirable propellants cause undesirable smarting of the skin. Furthermore, they form less stable lathers than the previously described preferred propellants. However, they may be used in admixture with the more desirable propellants, in which case their undesirable effects are less evident.

We have found that the unsaturated aliphatic hydrocarbons, the chlorinated hydrocarbons containing no fluorine, and the completely fluorinated hydrocarbons as well as the volatile ethers do not form stable lathers or lathers of useful consistency. All of these except the completely fluorinated hydrocarbons produce a marked burning or smarting sensation on the skin. The completely fluorinated hydrocarbons do not smart strongly but do not form satisfactory lathers, since when the pressure is released from mixtures

of these compounds and soap solutions, the gas escapes at once, leaving a watery liquid soap solution.

When it is desired to use a propellant having a relatively high vapor pressure in inexpensive can type containers, we have found that the vapor pressure can be reduced without the use of low vapor pressure propellants and without destruction of the lather-producing properties of the composition by adding a minor proportion of a suitable petroleum oil fraction. Petroleum oils of the pure refined industrial white oil type, starting with deodorized kerosene which has a density of about 0.78 at 60° F. and a viscosity of 30 to 35 seconds Saybolt at 100° F. and running up to a light mineral oil having a density of 0.84 at 60° F. and a viscosity of 65–75 seconds Saybolt at 100° F. or higher, may be added in proportions to give the desired low vapor pressure without destroying the lather-producing properties of the composition. Petroleum fractions of lower boiling point than kerosene are undesirable since they have an adverse effect on the quality of the lather, whereas white oils within the indicated range produce an excellent lather when employed in our composition, despite the fact that the incorporation of such oils in ordinary soap solutions makes it practically impossible to work the soap into a lather by the use of a brush.

The amount of oil added is selected in accordance with the desired reduction in vapor pressure but is limited by the amount which will adversely affect the quality of the lather produced. We have found that the maximum permissible quantity of oil varies with its viscosity. Thus, whereas up to about 20 per cent of oil based on the soap solution may be used with the oil having a viscosity of more than about 40 seconds Saybolt at 100° F., when oils in the viscosity range between 30 and 40 seconds Saybolt at 100° F. are employed, the maximum amount that will not impair the lather quality is approximately 10 per cent. It is generally preferred, when oil is added, that the soap in the soap solution comprise more than 50 per cent stearate soap. When mineral oil is added to compositions containing a major proportion of vegetable oil soaps, the lather is generally of inferior quality. When oil is added, the use of sodium salts and sodium salt wetting agents should be avoided, and at least 10 per cent of soap should be employed in the soap solution. Examples of our modified composition in which oil is employed to reduce the vapor pressure are given hereinafter.

The amount of propellant used in the soap solution and propellant composition of our invention is not critical, but is determinative of the density of the lather produced. The greater the proportion of propellant, the lower will be the density of the lather. In general, useful lather densities lie in the range of about .02 gram per cc. up. Lathers of such low density as .02 or .03 gram per cc. are rather firm and dry to the feel. At densities above about 0.20 gram per cc., lathers flow readily and hence are less desirable for shaving purposes but are useful for other washing operations, such as shampooing. Shaving lather densities should lie between about .03 and .25 gram per cc., while for shampooing or other uses a wider range of densities may be used. The preferred range for shaving lather is a density between about .06 and .15 gram per cc. Densities in this preferred range can be obtained by using from about .07 to about .025 mole of propellant to each 100 grams of the propellant and soap solution composition. The

percentage by weight of propellant required to produce a given lather density varies with the molecular weight of the propellant used. When using a propellant mixture comprising 39 per cent by weight of dichlordifluormethane and 61 per cent of 1,2 dichlor 1,1,2,2 tetrafluorethane, the proportion of propellant by weight of the composition ranges from about 23.3% to about 3.17% for lather densities of about .03 to about .25 gram per cc. This propellant mixture has a molecular weight of about 151. Any desired density with any chosen propellant or propellant mixture can be approximated from the formula

$$D=\frac{100M}{24{,}000X+100M}\ (\text{at } 70^\circ \text{ F.})$$

where D is the density in grams per cc., M is the molecular weight of the propellant, and X is the percent by weight of propellant in the composition.

Thus the proportions of propellant in terms of moles per 100 grams of the propellant and soap composition within the useful range of lather densities given above (.02 to .25 gram per cc.) may be calculated by solving for X in the above-stated formula and dividing the obtained value of X by the molecular weight of the selected propellant. For example, with D=.02, X will equal .2041 M for any given propellant; hence the proportion of propellant in terms of moles per 100 grams of the composition will be about .20 mole. With D=.25, X will equal .0125 M, or .0125 mole per 100 grams of the composition.

Our composition is preferably enclosed in a container from which it is propelled as needed by the propellant gas pressure in the head space of the container. As the amount of liquid composition in the container decreases, the concentration of propellant in the liquid mixture drops due to the fact that some of the propellant evaporates to fill the increased head space. Thus, the density of the lather increases as the contents of the container decreases. For this reason, we prefer to use such a proportion of propellant to soap solution that the initial lather density when the container is substantially full lies under about 0.15 gram per cc., where the composition is to produce shaving lather. If the initial lather density is below about 0.06 gram per cc., the final lather will be dry and uneven.

The vapor pressure of the propellant at normal room temperatures determines the rapidity with which the lather is formed when the pressure on it is reduced to atmospheric pressure. To insure that the product will be expelled from the container, the vapor pressure of the propellant must be greater than 15 pounds per square inch absolute at room temperature. When propellants of slightly higher vapor pressure are used, the composition when released from the pressure container emerges as a liquid which thereafter swells to a lather. Thus, with propellants having vapor pressures of about 5 to 15 pounds per square inch gauge at 70° F., the product emerges as a liquid or a semi-liquid and is suitable for a shampoo since it swells into a lather after emergence. Compositions including propellants of such low vapor pressure can be used to produce shaving lathers, but it is preferred to employ higher pressure propellants for this purpose so that the composition emerges as a substantially fully developed lather when released from the container. Propellants having vapor pressures of about 25 pounds per square inch gauge or more at 70° F. give products that emerge as lathers when released to atmospheric pressure, at normal room

temperatures. Propellants having lower vapor pressures in the range from 5 to 25 pounds per square inch gauge at 70° F. produce products that emerge as lathers at elevated temperatures, but at temperatures below about 70° F. emerge as liquids that slowly swell to lathers.

The upper limit of the propellant vapor pressure is not critical and is determined by considerations of safety and economy. Depending on the type of container used, pressures from about 5 to 10 pounds per square inch gauge up at 70° F. can be employed for shaving lathers, but with mass produced inexpensive containers of the type used for beer cans, the maximum propellant vapor pressure should not exceed about 60 pounds per square inch gauge at the indicated temperature. Further, the higher the vapor pressure of the propellant, the greater is the proportion thereof required to fill the head space in the can as the liquid content is withdrawn. A practical range of propellant vapor pressures when using can type mass produced containers lies between about 5 to 65 pounds per square inch gauge at 70° F. and for shaving lather producing compositions should preferably be between about 15 and 65 pounds per square inch gauge at that temperature.

The following are examples of our composition, the percentages of ingredients being given by weight. It is to be understood that the composition is confined under the vapor pressure of the propellant at the prevailing temperature until lather is required, whereupon a suitable portion of the composition is released to atmospheric pressure and emerges as the lather or a lather-producing liquid. The following compositions that are designated shaving lather producing compositions emerge as stable lathers when released to atmospheric pressure at normal room temperatures:

Shaving lather producing compositions

		Percent
A	Soap solution 1, 2, 5, 12, 17, 18, 4, 7, 19 or 3	93.33
	Dichlordifluormethane Freon 12	2.6
Freon 114	1,2 dichlor 1,1,2,2, tetrafluorethane	4.07
B	Soap solution 2 or 4	86.3
	Dichlordifluormethane Freon 12	6.0
	45 sec. visc. mineral oil	7.7
C	Soap solution 1	83.7
	Dichlordifluormethane Freon 12	9.6
	65/75 sec. visc. mineral oil	6.7
D	Soap solution 1	86.5
	Dichlordifluormethane Freon 12	8.4
	30/35 sec. visc. kerosene	3.1
E	Soap solution 2	94.7
	Dichlordifluormethane Freon 12	5.3
F	Soap solution 2	90.1
	1,2 dichlor 1,1,2,2, tetrafluorethane	6.6
	Monofluortrichlormethane Freon 11	3.3
G	Soap solution 2	93.8
	Dichlordifluormethane Freon 12	3.2
	Trichlortrifluorethane Freon 113	3.0
H	Soap solution 1	94.0
	Difluorethane Genetron 152	3.3
	1,2 dichlor 1,1,2,2 tetrafluorethane	2.7
I	Soap solution 2	94.5
	Dichlordifluormethane Freon 12	2.1
	Monofluortrichlormethane Freon 11	3.4
J	Soap solution 2	97.7
	Butane	2.3
K	Soap solution 2	97.43
	Isobutane	2.57
L	Soap solution 2	97.8
	Propane	2.2

Shampoo and other lather producing compositions

		Percent
M	Soap solution 7, 8, 13, 14, 15 or 16	93.33
	Dichlordifluormethane Freon 12	2.6
	1,2 dichlor 1,1,2,2 tetrafluorethane	4.07 Freon 114
N	Soap solution 2	94.6
	Dichlordifluormethane Freon 12	5.4
O	Soap solution 2	90.9
	Dichlordifluormethane Freon 12	3.55
	1,2 dichlor 1,1,2,2 tetrafluorethane	5.55 Freon 114

It is preferred to enclose our composition in a pressure-tight container such as that shown in the drawing. The container shown is a can having a body portion 1 and a suitably attached concave bottom wall 2. An outlet valve is suitably secured in an opening in the top wall of the can. The valve shown comprises a tube 3 having an inturned flange 4 at its inner end which forms a valve seat. A valve plug 5 carried by a valve stem 6 is resiliently held in engagement with the seat 4 by a spring 7 which is compressed between the flange 4 and a stop 8 struck from the stem 6. A nozzle 9 is secured to the upper end of the tube 3 and extends laterally from the tube. The stem 6 extends through an opening in the nozzle and is provided with a push button 10 which may be depressed to open the valve. A tube 11 of suitable material is fitted over the tube 3 within the can and extends to a point near the juncture of the side and bottom walls 1 and 2 of the can substantially in line with the nozzle 9 in order to insure expulsion of substantially all of the can contents when the can is tilted in the direction of the nozzle.

The container is filled with the desired composition of soap solution and propellant in the proportions explained. The soap solution and propellant ingredients of the composition may be separately or simultaneously introduced. The composition or the propellant ingredient thereof is preferably introduced under a pressure above its vapor pressure at the prevailing temperature so that the propellant is in liquid phase except for the small amount in gaseous phase that fills the head space. The composition is mixed in the container by agitation induced by shaking, or by the introduction of the ingredients, and when a lather is required, the valve is opened by depressing the button 10, whereupon the lather or lather-forming composition emerges from the nozzle 9.

The term soap solution as used herein and in the appended claims is inclusive of solutions in which the soap ingredient or the major proportion thereof comprises the soluble foaming wetting agents described above, examples of which are included in the above-listed examples of soap solutions.

We claim:

1. A package comprising a pressure-tight container having a valve-controlled opening and containing a composition for use in producing a stable lather consisting essentially of a liquid mixture of an aqueous soap solution and a volatile propellant in liquid phase, the composition being confined in the container under the vapor pressure of the propellant, said soap solution comprising a solution which is non-gelling at room temperatures and which contains at least about 5% and not substantially exceeding about 30% by weight of soap, said propellant being a halogenated alkane having not more than two carbon atoms and containing at least one fluo-

rine atom, the atomic weight of each substituted halogen atom not exceeding 36, the proportion of propellant being from about 0.2 to about 0.0125 mole per 100 grams of the composition, said propellant having a vapor pressure in the range from about 5 to about 300 pounds per square inch gauge at 70° F. and having a solubility in water not exceeding about 32 cc. of gas to 100 grams of water at atmospheric pressure and 25° C.

2. A package comprising a pressure-tight container having a valve-controlled opening and containing a composition for use in producing a stable lather consisting essentially of a liquid mixture of an aqueous soap solution and a volatile propellant in liquid phase, the composition being confined in the container under the vapor pressure of the propellant, said soap solution comprising a solution which is non-gelling at room temperatures and which contains at least about 5% and not substantially exceeding about 30% by weight of soap, a substantial proportion of the soap in said soap solution comprising at least one soap selected from the group consisting of the soaps of potassium, sodium and the water soluble aliphatic amines, said propellant being a halogenated alkane having not more than two carbon atoms and containing at least one fluorine atom, the atomic weight of each substituted halogen atom not exceeding 36, the proportion of propellant being from about 0.2 to about 0.0125 mole per 100 grams of the composition, said propellant having a vapor pressure in the range from about 5 to about 300 pounds per square inch gauge at 70° F. and having a solubility in water not exceeding about 32 cc. of gas to 100 grams of water at atmospheric pressure and 25° C.

3. A package according to claim 2, in which the propellant comprises 1,2 dichlor 1,1,2,2 tetrafluorethane.

4. A package according to claim 2, in which the propellant comprises dichlordifluormethane.

5. A package according to claim 2, in which the soap in the soap solution comprises a higher saturated fatty acid triethanolamine soap and includes a lesser proportion of sodium soap.

6. A package according to claim 2, in which a substantial proportion of the soap in the soap solution comprises triethanolamine stearate and the propellant comprises 1,2 dichlor 1,1,2,2 tetrafluorethane.

7. A package according to claim 2, in which a substantial proportion of the soap in the soap solution comprises triethanolamine stearate and the propellant comprises trichlortrifluorethane.

8. A package according to claim 2, in which a substantial proportion of the soap in the soap solution comprises triethanolamine stearate and the propellant comprises dichlordifluormethane.

9. A package according to claim 2, in which the soap in the soap solution comprises at least 30% triethanolamine stearate and the propellant comprises 1,2 dichlor 1,1,2,2 tetrafluorethane.

10. A package according to claim 2, in which the soap in the soap solution comprises at least 30% triethanolamine stearate and the propellant comprises dichlordifluormethane.

11. A package comprising a pressure-tight container having a valve-controlled opening and containing a composition for use in producing a stable lather consisting essentially of a liquid mixture of an aqueous soap solution and a volatile propellant in liquid phase, the composition being confined in the container under the vapor pressure of the propellant, said soap solution comprising a solution which is non-gelling at room temperatures and which contains at least about 5% and not substantially exceeding about 30% by weight of soap, a substantial proportion of the soap in said soap solution comprising at least one soap selected from the group consisting of the soaps of potassium, sodium and the water soluble aliphatic amines, said propellant comprising a mixture of dichlordifluormethane and 1,2 dichlor 1,1,2,2 tetrafluorethane, the proportion of propellant being from about 0.2 to about 0.0125 mole per 100 grams of the composition.

12. A package comprising a pressure-tight container having a valve-controlled opening and containing a composition for use in producing a stable lather consisting essentially of a liquid mixture of an aqueous soap solution and a volatile propellant in liquid phase, the composition being confined in the container under the vapor pressure of the propellant, said soap solution comprising a solution which is non-gelling at room temperatures and which contains at least about 5% and not substantially exceeding about 30% by weight of soap, a substantial proportion of the soap in said soap solution comprising at least one soap selected from the group consisting of the soaps of potassium, sodium and the water-soluble aliphatic amines and including at least about 30% water soluble stearate soap, said propellant being a halogenated alkane having not more than two carbon atoms and containing at least one fluorine atom, the atomic weight of each substituted halogen atom not exceeding 36, the proportion of propellant being from about 0.2 to about 0.0125 mole per 100 grams of the composition, said propellant having a vapor pressure in the range from about 5 to about 300 pounds per square inch gauge at 70° F. and having a solubility in water not exceeding about 32 cc. of gas to 100 grams of water at atmospheric pressure and 25° C.

13. A package comprising a pressure-tight container having a valve-controlled opening and containing a composition for use in producing a stable lather consisting essentially of a liquid mixture of an aqueous soap solution and a volatile propellant in liquid phase, the composition being confined in the container under the vapor pressure of the propellant, said soap solution comprising a solution which is non-gelling at room temperatures and which contains at least about 5% and not substantially exceeding about 30% by weight of soap, a substantial proportion of the soap in said soap solution comprising at least one soap selected from the group consisting of the higher saturated fatty acid soaps of potassium, sodium and the water-soluble aliphatic amines and including at least about 30% triethanolamine stearate soap, said propellant being a halogenated alkane having not more than two carbon atoms and containing at least one fluorine atom, the atomic weight of each substituted halogen atom not exceeding 36, the proportion of propellant being from about 0.2 to about 0.0125 mole per 100 grams of the composition, said propellant having a vapor pressure in the range from about 5 to about 300 pounds per square inch gauge at 70° F. and having a solubility in water not exceeding about 32 cc. of gas to 100 grams of water at atmospheric pressure and 25° C.

14. A package comprising a pressure-tight container having a valve-controlled opening and containing a composition for use in producing a

stable lather consisting essentially of a liquid mixture of an aqueous soap solution and a volatile propellant in liquid phase, the composition being confined in the container under the vapor pressure of the propellant, said soap solution comprising a solution which is non-gelling at room temperatures and which contains at least about 5% and not substantially exceeding about 30% by weight of soap, a substantial proportion of the soap in said soap solution comprising a higher saturated fatty acid triethanolamine soap, said propellant being a halogenated alkane having not more than two carbon atoms and containing at least one fluorine atom, the atomic weight of each substituted halogen atom not exceeding 36, the proportion of propellant being from about 0.2 to about 0.0125 mole per 100 grams of the composition, said propellant having a vapor pressure in the range from about 5 to about 300 pounds per square inch gauge at 70° F. and having a solubility in water not exceeding about 32 cc. of gas to 100 grams of water at atmospheric pressure and 25° C.

15. A package comprising a pressure-tight container having a valve-controlled opening and containing a composition for use in producing a stable lather consisting essentially of a liquid mixture of an aqueous soap solution and a volatile propellant in liquid phase, the composition being confined in the container under the vapor pressure of the propellant, said soap solution comprising a solution which is non-gelling at room temperatures and which contains at least about 5% and not substantially exceeding about 30% by weight of soap, a substantial proportion of the soap in said soap solution comprising at least one soap selected from the group consisting of the higher saturated fatty acid soaps of potassium, sodium and the water-soluble aliphatic amines and including at least about 50% soluble stearate soap, not more than about 20% of a refined petroleum oil having a viscosity in the range from 30 to 70 seconds Saybolt at 100° F., said propellant being a halogenated alkane having not more than two carbon atoms and containing at least one fluorine atom, the atomic weight of each substituted halogen atom not exceeding 36, the proportion of propellant being from about 0.2 to about 0.0125 mole per 100 grams of the composition, said propellant having a vapor pressure in the range from about 5 to about 300 pounds per square inch gauge at 70° F. and having a solubility in water not exceeding about 32 cc. of gas to 100 grams of water at atmospheric pressure and 25 C.

16. A package comprising a pressure-tight container having a valve-controlled opening and containing a composition for use in producing a stable lather consisting essentially of a liquid mixture of an aqueous soap solution and a volatile propellant in liquid phase, the composition being confined in the container under the vapor pressure of the propellant, said soap solution comprising a solution which is non-gelling at room temperatures and which contains from about 5% to about 18% by weight of soap, said propellant comprising at least one compound selected from the group consisting of the substantially water-insoluble fluorinated-chlorinated ethanes and methanes in which all of the hydrogen atoms are replaced by chlorine and fluorine and in which the number of fluorine atoms in the molecule at least equals the number of chlorine atoms, the proportion of propellant being from about .07 to about .025 mole per 100 grams of the composition, said propellant having a vapor pressure in the range of from about 15 to about 65 pounds per square inch gauge at 70° F.

17. A package according to claim 16 in which the soap solution contains about 10% by weight of soap.

18. A package according to claim 16 in which the soap in the soap solution comprises a higher saturated fatty acid triethanolamine soap.

19. A package according to claim 16 in which the propellant consists of a mixture of dichlordifluormethane and 1,2 dichlor 1,1,2,2 tetrafluorethane.

20. A package according to claim 16 in which the propellant consists of a mixture of dichlordifluormethane and 1,2 dichlor 1,1,2,2 tetrafluorethane and in which the soap in the soap solution comprises a higher saturated fatty acid triethanolamine soap and includes a lesser proportion of sodium soap.

21. A package comprising a pressure-tight container having a valve-controlled opening and containing a composition for use in producing a stable lather consisting essentially of a liquid mixture of an aqueous soap solution and a volatile propellant in liquid phase, the composition being confined in the container under the vapor pressure of the propellant, said composition containing about 2.6% by weight of CCl_2F_2, about 4.0% by weight of $C_2Cl_2F_4$ with the remainder of said composition being said soap solution, said soap solution containing about 8.0% by weight of said solution of triethanolamine stearate and 2% by weight of said solution of triethanolamine soap of cocoanut oil fatty acids.

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